SOUTH MARKETING ISSUE
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## USDA Sees Fast Increase in Farm Use of Chemicals

### Biggest Progress Likely to Come in Agricultural Aviation

WASHINGTON—Treatment of crops and farm land with agricultural chemicals, especially by air, will probably increase rapidly in the next few years, continuing a trend that began at the end of World War II, the U.S. Department of Agriculture said Oct. 4 in a special statement.

Chemicals used will include fertilizers, insecticides, weed killers and fungicides.

**The most spectacular progress is likely to be made in agricultural aviation, according to scientists of USDA's Agricultural Research Service. Aircraft are already treating the equivalent of one-fifth of the nation's 410 million acres under cultivation. Even so, dispersing chemicals by air is still in the pioneering stage, the scientists said.**

Special planes, engineered specifically for releasing either liquid or dry chemicals, are already appearing and are expected, eventually, to replace the war-surplus aircraft that has carried much of the load thus far in agricultural aviation. Future farm planes will be designed for slower flight, shorter take-offs and landings, improved pilot visibility and maximum safety, and will have improved equipment for dispersing chemicals.

Devices for efficient distribution of the chemicals will be developed to

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## TVA Output in Fiscal '57 Totals 266,000 Tons

KNOXVILLE, TENN.—The Tennessee Valley Authority reports that it produced some 266,000 tons of nitrogen and phosphate fertilizers during the 1957 fiscal year. This figure, it says, represents a little over 1% of the total amount of fertilizer consumed in the U.S. during the 1955-56 crop year.

TVA reports also that its production was used by test-demonstration farmers for experimental application, or was sold to farmer cooperatives and fertilizer dealers for use in educational programs.

The report stressed the fact that the past year was an active one for TVA in process development. A number of these developments, it says, centered around new uses for the continuous ammoniator-granulator, while others included the introduction of new fertilizers and the improvement of conventional types.

**"The new materials or processes attracting most industry attention were superphosphoric acid, new high-strength liquid fertilizers, superphosphates for immediate ammoniation, ammonium phosphate-nitrates, granular superphosphates by a low-cost continuous one-step process, and nitric phosphates by a new method which lowers equipment costs and increases the flexibility of such processes," the report states.**

Some 25 licenses to use TVA's patented chemical engineering developments were issued during the year, bringing to a total of 118 the number of licenses issued to date. TVA says that 98 companies have been licensed to use TVA chemical engineering developments.

## New England Conference Gets Sneak Preview of Survey of Fertilizer Buying Factors

By JAMES W. MILLER
Croplife Staff

MELVIN VILLAGE, N.H.—A sneak preview of the forthcoming national fertilizer survey, "Factors Influencing the Use of Fertilizer" was staged for the annual New England Fertilizer Conference at the Bald Peak Colony Club here Sept. 24-25.

While actual results of the survey being conducted by National Analysts, Inc., for the National Plant Food Institute will be withheld until all of the tabulations have been analyzed, the conference discussed some of the factors as they apply to the northeastern section of the U.S.

About 100 persons attended the meeting, sponsored by the New England members of the NPFI. Participants in two panel sessions were representatives of each of the agricultural colleges in New England and members of the NPFI staff.

**"The study is being made to find out what factors influence farmers to use fertilizer at low, medium and high levels and also the factors behind farmers not using fertilizer," Dr. Moyle S. Williams, chief agricultural economist for the NPFI said in opening the conference.**

"The survey is built on a carefully designed questionnaire made up of 128 questions. The questionnaire was completed through personal interviews with farmers by trained interviewers of National Analysts, Inc.

"First, a great deal of thought and effort went into the construction of the questionnaire," Dr. Williams continued. "It involved the combined efforts of a committee of industry ex-

(Continued on page 20)

# USDA Secretary to Ask Congress to Lower Price Supports, End Corn Curbs

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON—Backed by unanimous approval of a U.S. Department of Agriculture National Agricultural Industry Advisory Committee, Ezra Taft Benson, secretary of agriculture, is prepared to go before Congress next January to ask for an end of corn acreage allotment controls and for a reduction in the level of price supports for corn and the other basic crops—wheat, cotton, rice, peanuts and tobacco.

It is suspected that Congress might go along with a reduction in price support levels but within fixed limitations and decline to grant the secretary full discretion of the support level, say between zero and 90% of parity.

The basis for Mr. Benson's proposal is that corn acreage controls have demonstrated their ineffectiveness and should be ended. To a lesser degree it may also be noted that high levels of price support for the other basic crops, with tight acreage allotments, have lost whatever merit the sponsors saw in them.

This information on the advisory committee action of approval brings into the open the pending drive by Mr. Benson to make Congress face up to this radically altered concept of a farm program.

Few persons here are willing to speak affirmatively as to the meaning of such a change from the present farm program.

**A highly placed person in the fertilizer industry told Croplife last week that if acreage restrictions were removed from the corn crop and if price supports were to be reduced to 65 or 70% of parity, it probably would provide a field day**

(Continued on page 8)

## Modern Production Methods Prove Worth In Wisconsin Test

MADISON, WIS.—Dramatic proof of the pay-off of modern production methods was obtained this year in a "corn yesterday, today and tomorrow" demonstration conducted by the University of Wisconsin.

Production methods to match the times were used for each of the three plots. The results showed that:

The corn tomorrow plot yielded 140 bu. an acre, compared with 102 bu. for the today field and 70 bu. for the yesterday plot.

The cost of producing a bushel of corn was $1.25 yesterday, 63¢ today and only 58¢ on the tomorrow plot.

Net profit per acre for $1.25 bu. corn was $63.24 today and $68.34 tomorrow. In the yesterday field it was figured to be only 75¢ an hour as wages charged against production.

The project was conducted by D. R. Peterson, University of Wisconsin agronomist, and John Murdock, extension soils specialist. Materials were provided by Wisconsin Farmco Service.

Some of the production methods used in the three plots follow:

**Corn Yesterday**—horse-drawn equipment, two diskings and two harrowings, no soil test, 15 tons of manure, no commercial fertilizer, open pollinated untreated seed, plant population of 11,000 an acre, five cultivations and one hand hoeing for weed control, no irrigation, corn hand

(Continued on page 8)

### Inside You'll Find



## Tariff Commission Gives Output Figures For Organic Materials

WASHINGTON—A preliminary report on production of certain synthetic organic materials for June and July, 1957, has been released by the chemical division of the U.S. Tariff Commission.

According to the report, 2,4-D production for June totaled 3,061,244 lb. and in July, 2,907,720 lb. The latter figure was partly an estimate, the commission indicates.

The acid esters and salts of 2,4-D were produced in the amounts of 1,686,123 lb. and 1,944,737 lb. for June and July, respectively. Both of these figures include partial estimates.

Acid equivalent of 2,4-D acid esters and salts was produced during those months in the amount of 1,351,002 lb. and 1,626,006 lb., respectively. These figures were also partly estimated.

Production of 2,4,5-T came to 603,237 lb. in June, and 549,395 lb. the following month, according to the commission. These figures were partly estimated also.

Total primary production of urea was reported to be 71,619,423 lb. for June, and 66,186,819 lb. in July.

DDT production in June was 11,023,156 lb., and in July, 10,484,918 lb. The latter figure was partly estimated.

# Large Scale Effort Launched To Control Imported Fire Ant

WASHINGTON—Plans for an all-out attack on the imported fire ant in southern states, where it has gained a firm foothold, are now in the final discussion stage between federal and state agencies, the U.S. Department of Agriculture announced Oct. 7.

Funds for the federal government's part in the fire-ant eradication program have been made available expressly for this purpose by Congress. (See page 1 of the Sept. 23 issue of Croplife).

The imported fire ant—a destructive and annoying pest, harmful to crops, livestock, and humans—infests more than 20 million acres in Alabama, Mississippi, Louisiana, Texas, Florida and Georgia. Isolated infestations exist or have been eradicated in North Carolina, South Carolina, Arkansas and Tennessee. To help prevent the spread of the pest during the eradication campaign, plans are to regulate the movement of materials that might contain ants.

The fire-ant eradication program will be conducted jointly by state plant-pest regulatory agencies and USDA. It calls for close cooperative effort—planning and financing — by state, county and local governments, property owners in infested areas and the Federal government.

Most effective time for field operations against the fire ant is from November to April. Every effort will be made to take full advantage of the optimum period to begin an aggressive eradication program this year within the limits of funds available to USDA and from states, local agencies and property owners.

In order to stamp out the fire-ant, which may take three years or more in a given area, all infested lands—regardless of ownership or use—will need to be treated, according to plant pest control officials of USDA's Agricultural Research Service. Such a united and comprehensive attack is needed to successfully wipe out the pest, since ants from untreated land could reinfest treated areas.

**Treatment will be by airplane, motorized ground equipment and hand applicators. A number of insecticides are known to be effective against fire ants, and local conditions may determine the one to be used in a specific location.**

Announcement of a public hearing is expected soon to consider the advisability of a federal quarantine. Its purpose would be to keep the ant from spreading and to protect areas cleared of the pest as the program progresses.

Such a program would regulate movement of soil, gravel and sand, products with which soil is closely sociated, including balled and b lapped nursery stock, equipment a pulpwood. Effective treatments available to destroy ants in mate of this kind, USDA scientists say.

The ant's fiery sting, which gi the pest its name and reputati causes farm workers to shun heav infested fields. The fire ant often tacks small animals, ground-nest birds, poultry and even newb calves and pigs. The mounds built the ant make it difficult, and so times impossible, to use certain fa machines in heavily infested are Improved pastures also are damag by the pest, and their stock-carry capacity is reduced. Its unsigh cone-shaped nests in urban areas figure lawns, parks and gardens.

The fire ant is believed to have tered the U.S. as a stowaway from South American port about 1920. first became established in the Mob Ala., area, then spread to other pa of the South—slowly at first, but r idly in recent years. Field headqu ters of the eradication program w be at the southern regional office USDA's Plant Pest Control Divis at Gulfport, Miss.



## Simplot Announces Personnel Changes in Fertilizer Division

POCATELLO, IDAHO—Personn changes in the sales organization the fertilizer division of J. R. Simp Co. have been announced by Ben McCollum, sales manager.

C. E. Brissenden has been nam director of market development, new position created in the sales d partment. He was formerly mana of Platte Valley Fertilizer Co. Scottsbluff, Neb., a Simplot subsi ary.

E. M. "Arkie" Cowen is the n manager of the Platte Valley ope tion which has a branch at Torrin ton, Wyo. Mr. Cowen was manag of the Simplot Soilbuilders unit Greeley, Colo.

Also new in the Simplot sales p ture is Byron K. Wilson, Midwe sales representative, who will wo out of Manhattan, Kansas. Mr. W son has a college degree in agrono and a background in agriculture a selling.

Another new appointee with a c lege background in agriculture Larry Hyder, named Simplot W Coast sales representative, who w live at Placerville, Cal. Mr. Hyd has been employed as a wareho manager in the produce business pr vious to joining the Simplot sa staff.

A veteran of Simplot Soilbuilde W. K. Jeffcoat has been moved to a sales representative capacity a working in the West Coast area. M Jeffcoat lives at Yuma, Ariz. and w work out of that city.

## Rohm & Haas Withdraws Yellow Cuprocide

PHILADELPHIA—Discont uance of its copper-based fungici Yellow Cuprocide, has been nounced by the agricultural and sa tary chemicals department of Ro & Haas Co. The product, a fin divided form of cuprous oxide, is ing withdrawn from the market fective Nov. 1, according to Car Kampmeier, department head. "Wh Yellow Cuprocide was useful to c mercial growers over a considera period, it virtually has been suppla ed in recent years in agricultu sprays and dusts by our organic fu gicide," Mr. Kampmeier said. thane D-14, X-78 and M-22 have d onstrated their superiority o copper-based materials in nearly applications. Consequently we concentrating our production fac ties and grower- cooperation on th organic fungicides and discontinu the sale of Yellow Cuprocide."

## No Gypsy Moths Found in Sprayed Area of New Jersey

TRENTON, N.J.—No gypsy moths ave been found in the 190,000-acre ction of North Jersey sprayed by craft last spring.

According to Frank A. Soraci, di-ector, Division of Plant Industry, ew Jersey Department of Agricul-re, the large-scale spray operation nducted by the state and federal partments of agriculture was com-etely successful.

This summer 4,500 traps, baited ith a substance attractive to the ale gypsy moth, were placed in a id pattern throughout two million res of land in the northern half of e state. This pattern permits satur-ion of the area with traps so that y moth emerging would come under e influence of at least one of them. hroughout the summer, the traps ere serviced at 10-day intervals. rapping has now been completed and moths were recovered from the ea treated with insecticide.

The total catch for the entire two illion acres amounted to only three ypsy moths. Two were found in Mor-s County and one in Hunterdon ounty, at spots well outside of sec-ons where spraying was done last ring. Intensive scouting operations ill be conducted this fall and win-r to locate the egg masses responsi-e for the emergence of the moths und.

"With such excellent results from is year's spray program," Mr. oraci said, "there will be no need r extensive airplane application of secticide to combat the gypsy moth New Jersey in 1958. Treatment ill be necessary in only small lo-lized areas, probably amounting to total of about 10,000 acres."

The gypsy moth, the most damaging sect pest of eastern hardwood for-ts, appeared in New Jersey in 1954 ter an absence of more than 30 ars.

**Mr. Soraci compared the recent radication program with that of he 1920's when 11 years of effort nd 1,100 man-years of labor were equired to rid the state of the pest. hat program, when only 23,000 cres were sprayed, cost the state nd federal governments a total of ½ million dollars.**

"Present methods," he said, "make possible to treat a similar acreage less than 10 hours with one air-aft at a cost of about one dollar r acre. The 1957 program in New rsey cost less than $200,000 of fed-al and state funds."

Damage done by the gypsy moth in eas where it has become firmly es-blished amounts to millions of dol-rs each year. The recent New Jer-y infestation, Mr. Soraci pointed t, was light and scattered, and era-ation measures were taken before e pest had a chance to build up in mbers.

### Allied Names Omaha Plant Superintendent

OMAHA—F. L. Van Houten, who as chief chemist at the Omaha plant Nitrogen Division, Allied Chemical Dye Corp., has been named general perintendent of the plant. He suc-eeds Virgil A. Peringer, who recent-y moved up to the post of plant man-ger.

Mr. Van Houten started with the m in Syracuse, N.Y. in June, 1927, d he came to Omaha from the opewell, Va. plant in 1953.

### Florida Consumption

TALLAHASSEE, FLA.—Fertilizer nsumption in Florida during August taled 81,661 tons, according to the orida Department of Agriculture. is included 33,185 tons of mixed ods and 48,476 tons of materials.

## Potash Shortage Seen As Cause of Black Spots in Potatoes

BERKELEY, CAL.—A shortage of potash in the vines may be connected with the serious black spotting problem in Russet Burbank potatoes, say plant scientists at the University of California.

The internal stem-end spotting or bruising, a problem for potato producers in the Santa Maria and Salinas valleys, has also been found recently in the Bakersfield area of the San Joaquin Valley.

Laboratory and field tests showed that the blackening occurs only after potatoes are handled, and that mature potatoes are the most seriously affected. But in all cases, the occurrence of black spot is closely associated with potassium nutrition, says the report from John W. Oswald, plant pathologist on the Berkeley campus, and Oscar A. Lorenz, vegetable crops specialist on the Riverside campus.

The scientists made tests in three fields where potash was plentiful, found little or no black spotting in potatoes that were machine-dug or artificially bruised in a barrel seed-treater.

**In three other fields where the potash supply was low, internal black spot was severe. Addition of potash fertilizer to these fields reduced both the amount and severity of the black spotting.**

The scientists believe that potatoes obtaining sufficient potassium from the soil for normal vine growth and yield may still lack enough of the element for proper development of the tubers themselves.

Mr. Oswald and Mr. Lorenz are continuing their studies, attempting to determine just how potash is related to this black spotting. From the results of their laboratory and field experiments, they hope to devise a practical and effective method for field control of the problem.

## WHAT'S WRONG WITH EFFICIENCY?

**"There seems to be a reluctance on the part of some of our agricultural leaders to emphasize the importance of lowering the per-unit cost of production, for fear that the subsequent efficiency may contribute to our so-called burdensome surpluses. We cannot dismiss the fact that farm surpluses present a real knotty problem, but we can dismiss the contention that inefficiency leads to a cure."—Dr. Russell Coleman, Executive Vice President, National Plant Food Institute, in a talk before a meeting of the American Agricultural Editors' Assn. in Washington.**

# INSECT AND PLANT DISEASE NOTES

## Cotton Leaf Worm Problem in Arizona

PHOENIX, ARIZ.—The cotton leaf worm in Arizona continues to be a problem in Graham, Greenlee and Cochise counties and some fields have been almost completely stripped of their leaves. If this insect should increase in the lower elevation counties, it would cause severe injury well into October.

**In Pinal, Maricopa and Yuma counties the cotton leaf perforators and spider mites are causing some concern. Control of mites is especially needed in some fields in Maricopa and Pinal counties. The cotton leaf perforator may also need controls in late planted fields.**

In Maricopa County, the salt marsh caterpillars are increasing, and the laying of eggs in the growing tips may necessitate an application of an insecticide for control of this generation. This may also be true in Yuma County.—J. N. Roney.

## Hopper Buildup in Colorado Discovered

FT. COLLINS, COLO.—Fall surveys, now nearing completion, point to a moderate to heavy buildup of grasshoppers over much of Colorado. Federal and state survey officials reported hopper populations of 25 or more per square yard in many areas.

**The surveys show considerable damage can be expected in fall wheat plantings, especially in eastern and northeastern Colorado.**

Grasshopper control programs should begin now—to prevent heavy egg laying this fall and severe infestations next year.

The adult female hoppers, unless they are killed, will lay from two to six egg pods during the fall months. They will lay most of their eggs in field margins, fence rows and roadsides. One of the most numerous types of grasshoppers found in the survey, however, is the "lesser migratory grasshopper" which often lays its eggs in wheat stubble or alfalfa fields. —Gordon Mickle.

## Black Horse Flies Found in S.C. County

CLEMSON, S.C.—Black horse flies are numerous and the blood droppings they cause attract screw worm flies. The situation is widespread in Georgetown County.

Georgetown County also reports sod webworm damage. Mites have invaded some homes in Anderson County and roaches are causing trouble in Georgetown County.

A small number of cotton leaf worms were spotted at Clemson a the southern grassworm is present the Charleston area. Light trappin of the European corn borer mo were made at Clemson and a few g den webworm moths were also caug at Clemson.—W. C. Nettles, L. Sparks and F. H. Smith.

## Vegetable Damage in Tennessee Feared

KNOXVILLE, TENN.—Vegetabl were getting their last licks from f insects and some damage was fear from the large tomato worm. T Mexican bean beetle is slowing do with cooler nights but treatment expected to cut down the hold-ov crop of adult beetles that will atta beans next spring.

**Turnip pests may become a prob lem yet this fall and if found treat ment is suggested.**

Grain insects and rodents are e pected to make their annual inroa in stored grain and precautiona measures, such as regular inspectio and fumigation if weevils are foun are suggested.—W. C. Pelton and P. Mullett.

## Several Insects Damage Various Georgia Crops

ATHENS, GA.—Heavy infestatio of the fall armyworm have been fou on small grain in Taliferro Count Reports of heavy damage in Wilk and Lincoln counties have been mad

Light infestations of the Moc grassworm on coastal Bermuda gra were found in Colquitt, Berrien a Bacon counties. Moderate infestatio are present in Hancock County and Meriwether County a 30-acre field coastal Bermuda was destroyed.

The fall armyworm was causin moderate damage to coastal Bermud in Hancock County. Heavy infest tions of the velvetbean caterpillar Oconee and Hancock counties we reported. Heavy infestations we seen in Colquitt, Bulloch and Burk counties. One field in Burke coun was completely defoliated.

Many fields of cotton were defol ated by the cotton leafworm in th south and middle sections of Georgi —W. C. Johnson and C. R. Jordan.

## Gypsy Moths Curbed In North New Jersey

TRENTON, N.J.—No gypsy mot have been found in the 190,000-ac section of North New Jersey spray by aircraft last spring in an attem to eradicate the pest from the stat The large-scale spray operation co ducted by the state and federal d partments of agriculture appears be completely successful.

This summer 4,500 traps, baite with a substance attractive to th male gypsy moth, were placed in grid pattern throughout two milli acres of land in the northern half the state. This pattern permits sa uration of the area with traps so th any moth emerging would come u der the influence of at least one them. Throughout the summer, th traps were serviced at 10-day inte vals. Trapping has now been co pleted and no moths were recover from the area treated with insec cide.

**The total catch for the entir two million acres amounted to onl three gypsy moths. Two were found in Morris County and one in Hun terdon County, at spots well out side of sections where spraying wa done last spring.**

Intensive scouting operations w be conducted this fall and winter locate the egg masses responsible f the emergence of the moths found. Frank A. Soraci.

### SEED PLANT

ITHACA, N.Y.—A plant for pr cessing agricultural seeds was fo mally opened by Cooperative G.L.F Exchange, Oct. 3, in Warners, nea Syracuse, N.Y.

## 956-57 Fertilizer ales in California gain Top Million Tons

SAN FRANCISCO—Sales of commercial fertilizers in California increased by almost 8% between the fiscal years of 1955-56 and the corresponding 12-month period which ended last June 30.

The Bureau of Chemistry of the State Department of Agriculture reports total sales of 1,079,748 tons of fertilizer between July 1, 1956, and June 30 last, as compared with 1,-001,554, during the previous fiscal year, the first time sales had topped the million tons. The new record was made by increases in almost every major commercial fertilizer category.

Dry mixed fertilizers stood out on top of the list once again with an increase of about 6%, from 208,231 tons to 221,915 tons. But its position is now closely challenged by second place holder ammonia solution 20-0-0, rising almost 10% from 199,960 to 219,237 tons.

Ammonium sulfate was in third position again, increasing from 140,-938 tons to 152,286; and in fourth was anhydrous ammonia, with a gain from 68,002 to 70,864. The largest relative gain was registered during the year by ammonium nitrate solution, 20-0-0, which jumped from 14th place to 9th, and increased 133% from 9,375 tons to 22,597. The second largest relative gain brought the liquid mixed fertilizer group up from eighth position to fifth, and in tonnage from 46,-823 to 66,045.

Small drops were registered by chemicals in the sixth, seventh, and eighth positions, and were, respectively, normal superphosphate, down from 22,798 to 21,060; ammonium phosphate-sulphate 16-20-0, down from 59,504 to 58,026; and ammonium nitrate, from 51,866 to 47,991. Ammonium nitrate solution 20-0-0, in ninth spot, crept up to 29,956 from 29,085.

Four more chemicals selling above 10,000 tons included. 11th place, urea, gaining from 18,592 to 21,769; activated sewage sludge, from 18,251 to 20,822; treble superphosphate, from 17,464 to 16,526; and ammonium phosphate 11-48-0 from 9,732 to 10,-908.

In the dry mixed fertilizer group, 16-20-0 continued to hold top place, rising from 20,537 to 23,459. Other top sellers included 10-10-5, up from 19,460 to 22,156; 17-7-0, up from 15,-803 to 19,811; and 8-8-4, which dropped from 14,214 to 12,061.

The 4-4-2 grade showed the greatest relative gain by rising from under 1,000 tons to 7,670, capturing fifth place in this group.

Sale of agricultural minerals also climbed roughly 15%, from 693,483 tons to 829,890 during the same 12 month period. Gypsum led the entire group by moving up from 575,137 to 722,872. Second spot was held by unactivated sewage sludge, gaining about 10% from 33,100 to 36,458. Calcium carbonate was up from 13,735 to 15,698, and soil sulfur was down from 17,382 to 14,991.

## Charles C. Bell in New Baughman Post

ST. LOUIS—Charles C. Bell has been appointed transport engineer for Baughman Manufacturing Co.'s commercial sales division, according to an announcement by James E. Cadle, Jr., Baughman's assistant general manager.

Mr. Bell has been with the firm for five years and has played a major role in the design and manufacture of Baughman's bulk transport bodies. Prior to his Baughman employment his background included 30 years in industrial engineering and administration.

David Fowler has been appointed eastern sales engineer for Baughman. Formerly Mr. Fowler was employed by the St. Louis Division of Young Sales Corp.

## Industry Asked to Support 4-H Campaign

WASHINGTON — Twenty eight companies had contributed to the industry-wide campaign being carried on in behalf of 4-H Club work as of Oct. 1, according to two leaders of the fertilizer industry, John V. Collis, president of the Federal Chemical Co., Louisville, and R. E. Bennett, president, Farm Fertilizers, Omaha.

Mr. Collis and Mr. Bennett kicked off a special fund raising program in behalf of the National 4-H Club Foundation on July 25. In a follow-up letter last week to the industry representatives, they said, "The response from the fertilizer industry has been good, but we need more help. We want to close the program within thirty days and sincerely hope that our industry will again be among the top contributors to this wonderful work."

Companies that had contributed as of Oct. 1 were: Tab Grain Co., Ambia, Ind.; United States Potash Company, New York; National Potash Co., New York; F. S. Royster Guano Co., Norfolk, Va.; Valliant Fertilizer Co., Laurel, Del.; Cooperative Fertilizer Service, Inc., Raleigh, N.C.; Pinellas Growers Assn., Clearwater, Fla.; Shur-Gain, Inc., Presque Isle, Maine; Cotton States Fertilizer Co., Macon, Ga.; Potash Company of America, Carlsbad, N.M.; U.S. Industrial Chemicals Co., New York; Farm Fertilizers, Inc., Omaha; R. E. Bennett, Farm Fertilizers, Inc., Omaha; Meridian Fertilizer Factory, Hattiesburg, Miss.; Atlantic Fertilizer Corp., Riverhead, New York; Escambia Chemical Corp., New York; the Cotton Producers Assn., Atlanta; National Plant Food Institute, Washington, D.C.; Kingsbury & Co., Indianapolis; Brown Fertilizer Co., Blackville, S.C.; Virginia-Carolina Chemical Corp., Richmond, Va.; U.S. Steel Corp., Pittsburgh; American Agricultural Chemical Co., New York; the Dow Chemical Co., Midland, Mich., and Southern Nitrogen Co., Inc., Savannah, Ga.

Mr. Collis and Mr. Bennett asked that companies wishing to contribute make their checks payable to the National 4-H Club Foundation and mail direct to Grant A. Shrum, executive secretary, 4-H Builders' Council, 8561 Fenton St., Silver Springs, Md.

### DOW STOCK OFFERING

MIDLAND, MICH.—An offering of 200,000 shares of common stock of the Dow Chemical Co. to its employees and those of its subsidiaries and certain associated companies was authorized Oct. 1 by the company's board of directors. The new offering, to be known as the 1957-58 Employees' Stock Purchase Plan, will be the ninth since the company started selling common stock to its employees on an installment basis. Approximately 30,000 employees will be eligible to subscribe for stock this year under the usual payroll deduction plan.

# Industry Patents and Trademarks

**2,807,574**

**Treatment of Unreacted Ammonia in the Manufacture of Urea.** Patent issued Sept. 24, 1957, to Masao Hirano and Makoto Tsunoda, Otsu, Kaneko, Niihama-shi, Japan. In the recovery of substantially carbon-dioxide-free ammonia from aqueous solutions containing ammonia and carbon dioxide in mol ratios greater than unity, the improved process which comprises: at a pressure of from about 10 to about 30 atmospheres, heating a mass of said solution sufficiently to obtain an off gas mixture comprising essentially ammonia and carbon dioxide; collecting said off-gas mixture; and in a separate vessel passing collected off-gases into a body of liquid ammonia maintained under a pressure of from about 10 to about 30 atmospheres, converting the carbon dioxide by said step into small discrete particles of ammonium carbamate suspended in said liquid ammonia, liberating carbon dioxide-free ammonia gas from said body of liquid ammonia in greater volume than is passed into said body, and recovering so-obtained ammonia gas.

**2,807,521**

**Phosphoric Acid Manufacture.** Patent issued Sept. 24, 1957, to Wendell B. Lambe, Staten Island, N.Y., and Alfred R. Smith, Plainfield, and Herbert Otani, Dunellen, N.J., assignors to Chemical Construction Corp., New York. A method for the production of phosphoric acid which comprises mixing with concentrated sulfuric acid a quantity of hot dilute aqueous phosphoric acid such as to provide both the amount of water necessary to dilute the mixture to a 25-40% sulfuric acid concentration and the additional amount of water which when converted into vapor will remove the heat of dilution as latent heat of vaporization, cooling the mixture to digestion temperatures at which a stable calcium sulfate dihydrate will form in the subsequent digestion process by subjecting it to vacuum evaporation, forming a hot condensate of the water removed by the vacuum evaporation, digesting ground phosphate rock by mixing it with said cooled digestion acid mixture and with recycled product phosphoric acid at said digestion temperatures and thereby forming a filterable slurry of calcium sulfate dihydrate in aqueous phosphoric acid, filtering the slurry and washing the filter cake with said hot condensate to remove a major portion of the phosphoric acid from said cake, and returning the resulting hot, dilute, aqueous phosphoric acid containing wash water for admixture with said concentrated sulfuric acid.



## Industry Trade Marks

The following trade marks were publish in the Official Gazette of the U.S. Patent Off in compliance with section 12 (a) of Trademark Act of 1946. Notice of opposit under section 13 may be filed within 30 d of publication in the Gazette. (See Rules 2 to 20.5.) As provided by Section 31 of the a a fee of $25 must accompany each notice opposition.

**Citrosynth,** in capital letters, f odorant to mask disinfectants, secticides and similar products. Fil Aug. 16, 1956, by Florasynth Labor tories, Inc., New York. First use Ju 13, 1945.

**Mersect,** in capital letters, for se disinfectants. Filed Oct. 8, 1956, E. I. du Pont de Nemours & Co., In Wilmington, Del. First use on or b fore Sept. 12, 1956.

**Nitrogation,** in capital letters, f ammonia for soil fertilization. Fil Jan. 7, 1957, by Shell Chemical Cor New York. First use Jan. 19, 1941.

**M.O.M.,** in capital letters, for s amendment and fertilizer. Filed Fe 18, 1957, by Lowes-Mandrones Co Mining Co., doing business as Lowe Mandrones Mining Co., Molalla, O First use Dec. 19, 1955.

## John A. Sargent Resigns as President Of Diamond Alkali

CLEVELAND—Resignation John A. Sargent as president and director of Diamond Alkali Co., Cleveland, has been announced.

The board of directors, at a spec meeting, assigned Mr. Sargent's pre dential duties and responsibilities Raymond F. Evans, chairman a chief executive officer for the pa three years. In addition, the boa created the position of executive vi president and elected A. H. Ingle senior vice president, to the post.

In announcing these actions, M Evans said that Mr. Sargent, who w make known his future plans at time of his choice, "takes with h the admiration of all of us who ha worked with him for the importa contributions he has made to D mond's progress in the last 11 yea and our sincere best wishes in t new work he chooses."

Joining the company as treasurer 1946, Mr. Sargent was named v president—finance in 1947, executi vice president in 1948 and preside in 1954. He is a director of The Wh Motor Co., Central National Bank Cleveland, and the Manufacturi Chemists' Assn.

With Mr. Sargent's resignati from the presidency of the compan Mr. Evans, a veteran of 26 yea service with Diamond, now resum the duties which he formerly held president from 1947 to 1954. He w continue to perform the functions chairman and chief executive offic Previously, Mr. Evans was executi vice president.

Mr. Ingley, Diamond's new exec tive vice president, is a 37-year v eran. Named senior vice president August and a director since April, was formerly vice president—man facturing for nine years.

## Improved Pasture Pays $40 for $18

COLLEGE STATION, TEXAS— Pastures improved by fertilizati and overseeding with crimson clov returned $40 for each $18 spent f improvement at the Tyler station Texas A&M College. Fifteen perc more milk production was obtain from a 6-acre improved pasture th from a 15-acre unimproved pasture

**MORE BARLEY**

URBANA, ILL.—Winter barley h steadily risen in popularity amo southern Illinois farmers during th past six years, report J. W. Pend ton and R. O. Weibel, University of I linois agronomists. Acreage was ov seven times as great last year as 1952, they point out.

## CIPPERLY

(Continued from page 1)

**for the plant food industry. This result would be caused by an intense drive of corn farmers to obtain maximum yields from expanded acreage so as to obtain increased efficiency through lowered per unit production costs.**

USDA officials agree the alternatives are not providing a complete nor prompt solution to the compounding problems of the farm communities. First Mr. Benson is faced with a truly burdensome carryover of corn and other feed grain crops—far in excess now of normal requirements except for the possibility of a most severe and extended drouth or an outbreak of war.

USDA observers, not prompted by urgent political considerations, agree that the feed grain program is the most pressing problem in agriculture today and that it will be a problem for as long as five to ten years, again barring sustained long range drouth or war.

**At best it is conceded that some departure must be made from the present program even though the proposed new program of Mr. Benson does not give the complete answer.**

Some fertilizer industry sources express doubt that Congress will grant the requests of the secretary. However, it must be noted that there no longer is a cohesive Farm Bloc in the national legislature. The corn farmers are against the wheat and cotton farmers. Their defection from the former Farm Bloc would probably be sufficient, when teamed up with the urban members of Congress, to approve the Benson ideas.

On balance, however, the issue seems to resolve itself into this position: the present corn acreage allotment program is not working. Acreage allotments have not curtailed production with its high level on price support. Removal of acreage allotments on corn and a reduced level of price support may discourage production of corn from huge acreages.

But—and here this word "but" becomes a most important three letter word—if the plant food industry plus effective educational efforts from USDA can persuade the farmers not to rely on acreage alone but to gear the corn land to high yields per acre planted, it is conceivable that corn acreage will not be pushed to a point of heavy over-production. Rather, good farm efficiency and land use utility may produce excellent crops at lower costs per bushel unit.

In that respect the plant food industry can contribute to the Benson program. It can lead the way for the corn farm community to good yields and show at the very outset a better profit per acre through higher yields at lower costs per bushel grown.

**It can be reasoned that plant foods have a big job to do in this rapidly changing farm economy. This condition has been well known and adequately described by such industry leaders as Dr. Russell Coleman, executive vice president of the National Plant Food Institute.**

In any event it seems now that if the Benson program can be put into operation the plant food industry may reach a new high level of sales of its products—but only if it can tailor its sales to greater productivity per acre. It is a big educational job.


Photo by Georgia Agricultural Extension Service



## Figures on Inorganic Chemicals Given by U.S.

WASHINGTON—Production of inorganic chemicals in the U.S. for the months of June and July, 1957, has been tabulated by the bureau of the census, U.S. Department of Commerce.

Production of anhydrous ammonia for June totaled 308,755 tons, and for July, 293,611 tons. The latter figure compares favorably with the 248,384 tons produced in July, 1956.

**Ammonium nitrate was produced in the total amount of 191,036 tons in June and 182,595 tons in July. The figure for July, 1956, was 161,546 tons.**

Fertilizer grade ammonium nitrate production in June, 1957, was 164,787 tons, and in July, 161,363 tons. The previous July chalked up a production figure of 131,901 tons.

Synthetic ammonium sulfate production came to 91,998 tons in June, and 80,596 tons in July, 1957. In the latter month of last year, production was 81,743 tons. Byproduct ammonium sulfate was up this year over production figures of 1956. June and July, 1957, registered respectively 77,774 and 79,587 tons, as compared to 20,237 tons in July, 1956.

**Calcium arsenate was produced in the amount of 2,786 tons in June, 1957, and 1,890 the following month of this year. July, 1956, however, saw production of 4,044 tons.**

Nitric acid production was as follows for June and July, 1957: 212,616 and 210,125 tons, respectively. The production figure for July, 1956, was 173,527.

Phosphoric production for June and July, 1957, was 331,083 and 331,608 tons, respectively. For July, 1956, the figure was 235,900 tons. Phosphoric acid from phosphate rock was listed as 206,320 tons in June, 1957; 205,240 tons in July, 1957, and 123,588 tons in July, 1956.

Total gross sulfuric acid production was reported at 1,308,571 tons in June, 1957; 1,285,869 tons in July, 1957, and 1,129,556 tons in July, 1956.

**Robert L. Allen**

**SALES MANAGER—Robert L. Allen has been appointed general sales manager of Chicago Steel Tank Co., division of U.S. Industries, Inc., according to an announcement by D. D. Cleghorn, general manager of Chicago Steel Tank. Mr. Allen was previously associated with Fritz W. Glitsch & Sons, Inc., Houston, Texas as a district sales manager from 1949 to 1955 and then as general sales manager until the present time.**

## Fertilized Pasture Boosts Milk Output In Minnesota Tests

ST. PAUL—Fertilized grass pastures produced $66 worth of extra milk income per acre in pasture demonstrations on Minnesota farms according to University of Minnesota specialists. Milk yields were twice as high on the fertilized pastures as on the untreated fields. The totals were 4,333 lb. per acre and 2,000 lb. respectively.

The tests were conducted by Charles Simkins, extension soils specialist and Ermond Hartman, extension farm management specialist of the University. The cows were entirely pasture fed. Dairy herds in the demonstrations had 233 "cow days per acre" on the fertilized pasture, compared to only 101 days on the check fields.

The pasture improvement program not only produced more forage, but higher quality feed as well, the college men report. The protein content of the fertilized pasture averaged 21.1%, compared to 14.3% on the untreated area.

## CORN TEST

(Contined from page 1)

picked, time to produce a bushel—3 minutes.

**Corn Today**—Tractor equipment, two diskings and two harrowings, soil test, eight tons of manure, fertilized for 100 bu. yield, hybrid treated seed, plant population of 17,000 an acre, post-emergence weed control and two cultivations, no irrigation, harvested by two row corn picker, time to produce a bushel—five mintes.

**Corn Tomorrow**—Minimum tillage, soil test, 8 tons of manure, fertilized for 150 bu. yield, treated hybrid seed, plant population of 22,000 an acre, pre-emergence weed control, no cultivation, one inch of irrigation, harvested by picker-sheller, time to produce a bushel—three minutes.

### TURFGRASS CONFERENCE

MANHATTAN, KANSAS—"Modern Turfgrass Management" will be the theme of the eighth annual turfgrass conference at Kansas State College, Oct. 16-18, according to Ray Keen, of the college's department of horticulture. Forty speakers will participate in the conference.

*Fertilizer Dealers, Manufacturers Can Help*

# An Intensified Program to Raise Farm Income By More Efficient Fertilizer and Lime Usage

By Ralph L. Wehunt, P. J. Bergeaux and W. H. Gurley

**EDITOR'S NOTE: The accompanying article provides an informational background for an intensified fertilizer program underway in Georgia. Although Dr. Wehunt, co-author of the article, feels that this "crusade to increase public knowledge, acceptance and proper use of fertilizer and lime" involves no new concepts, it does involve several significant techniques. First, this is an "action" program and not a "talking" program. Farmers will be told and shown in "how-to-do-it" fashion. Secondly, the county agent will play a prominent role in the program, which will involve also the press, civic organizations, leading businessmen, farm youth groups, etc., spearheaded by the extension service. The program will begin soon in one of the six extension districts of Georgia. This district is comprised of Thomas, Colquitt, Coffee, Worth, Tift and Laurens counties. It is felt that Georgia's intensified program, which has the full backing of the Georgia Plant Food Educational Society, is unusual and presents a pattern for other states. It has been well organized which would indicate that it will be launched in a manner worthy of a high degree of success. Dr. Wehunt, Mr. Bergeaux and Mr. Gurley are extension agronomists with the University of Georgia college of agriculture, Athens.**

• • •

## Introduction

There is a great and urgent need in Georgia for an active crusade to increase public knowledge, acceptance, and proper use of fertilizer and lime. The awards of such a concerted movement will be the satisfaction of helping farmers to harvest more profitable crops, of improving the economic position of business and industry, and of conserving and building good soils for future generations.

How to make best use of the soil should be of vital concern to everyone—those on the farm and in the city. Everything man eats, drinks, and wears—even the house he lives in—comes from Mother Earth. The soil is the eternal treasury of mankind. It, like faith, is the substance of things hoped for, the evidence of things not seen. Yet some 2¼ billion people depend upon it to provide them with life—and by and large, it never fails. But most people seldom give the soil a second thought. To some this vital resource is just plain dirt.

For the soils of Georgia to produce abundantly, fertilizer and lime are essential. This is a real problem because the need for using fertilizer and lime to increase the productive power of soils was never more important than today when farmers are confronted with high costs of production accompanied by low farm prices.

A vigorous soil fertility campaign was initiated last January at the annual meeting of the Georgia Plant Food Educational Society. Figures were released at this gathering by the college of agriculture which showed Georgia farmers, and the economy of the state as a whole, were losing $200 million annually above fertilizer costs by not following fertilizer and lime recommendations and other approved cultural practices on just three basic crops—corn, cotton and pastures.

Much progress has been made in promoting this "$200 Million Farm Fertility Program." Even so, only a small percentage of the farmers or business leaders realize the potential benefit that can be derived from it. Probably one reason that more rapid progress has not been made on the program is the large size of Georgia, which makes it difficult for a limited agronomy staff to cover adequately. To overcome this problem, it was decided to concentrate the efforts of a few agronomists in a selected group of counties. Similar campaigns will eventually be conducted in all areas of the state.


"Looks like Jones is bucking for a raise again!"

County Agent Raymond Rossen of Washington County, Tennessee, in a recent article in Croplife points up the need for the benefits to be obtained from an active crusade to improve soil fertility. The article by Mr. Rossen reads as follows:

"Blessed are we who have a business in an area of fertile fields.

Blessed are they that mourn over low yields for they shall be comforted to know it wasn't the land's fault, but theirs.

Blessed are they that are meek, but will work, seek information, and plan, for theirs will be a full life.

Blessed are they which do hunger and thirst after knowledge, for they shall inherit the better land.

Blessed are the charitable for they will be lenient with their fields and fertilize.

Blessed are they who plant pure seed, for they shall see the Maker's handiwork in the harvest.

Blessed are they that make peace with the soil, for they shall be called children of God's land.

Blessed are they which are persecuted for being progressive, for theirs is the reward of good homes and happy youngsters.

Blessed are ye when nonprogressives shall criticize and say, 'Let good enough alone.'

Rejoice and be exceedingly glad, for great is your reward in your community, for so criticized were they, the progressives, who were before you.

Agriculture preparest a table for cities that are set on hills; and, may well informed stewards recognize the basic values of good land and inhabit it."

Yes—a crusade on soil fertility is needed in which leaders will rise from the farms, business and industry—men who are not willing to accept defeat—leaders who are willing to promote new ideas, to try new fertilizers, and to revive those soil fertility principles which can help make a permanent farm security. Such people will look at their county—know it for a good county—and all of them will feel the difference in their minds.

**Sound Fertilization Today Will Give a Better Tomorrow:** Such an intensified soil fertility program should markedly benefit Georgia's agriculture and industry. It should provide helpful guideposts for tomorrow's farm opportunities, overcome the press of yesterday's farm traditions, and assist with today's farm demands. The program's slogan—Sound Fertilization Today Will Give a Better Tomorrow—must be "driven home" to every Georgia farmer and to all business concerns who serve him directly or indirectly.

## Why Is Intensified Fertility Plan Needed?

There are many reasons why an active and enthusiastic crusade is needed in Georgia to bring about greater fertilizer and lime know-how. Some of the main reasons are given below.

**Successful Crop Production Depends on Fertilizer and Lime:** Fertilizer and lime play major roles toward insuring success in crop production. Proper use of plant nutrients is responsible for a large share of the total crop production in Georgia. Thus, a large percentage of increased crop growth and correspondingly greater farm profits in the future will result from sound fertilizer and lime usage.

**Georgia Soils Are Low in Fertility:** Based on results from a large number of soil analyses, approximately 58% tested low in potash, 50% low in phosphate, and 30% were below pH 5.5, which is too acid for optimum crop production. Soils in south Georgia are generally lower in potash and more acid than those in north Georgia. North Georgia soils are usually lower in phosphate than those in south Georgia.

**Wide Disparity Exists Between Fertilizer and Lime Used and Needed:** Georgia farmers are not using sufficient fertilizer and lime to obtain optimum crop production. Approximately 1,058,544 tons mixed fertilizer were used in 1956, whereas 1,878,000 tons are needed to insure maximum plant growth. Only about 4.5% of the total cropland and improved pasture acres in the state are limed. About eight million tons of lime would be required to increase reaction (pH) to proper levels on most Georgia soils and two million tons would then be needed annually to prevent them from becoming acid again. Yet, only about 300,000 to 400,000 tons lime are used each year. Acid soils are definitely limiting crop growth in many areas and it is a serious problem. Approximately 44,000 tons of actual nitrogen were used by Georgia farmers in 1956. But 222,000 tons are needed annually to achieve the most profitable crop yields.

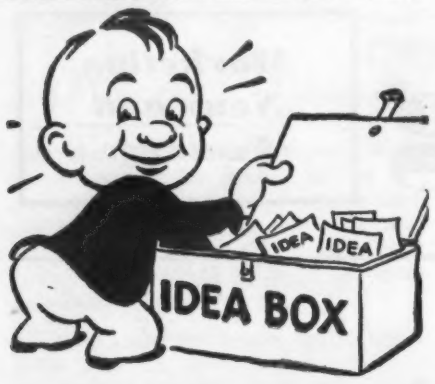
**Many Georgia Farmers Are Using Wrong Kind of Fertilizer:** About 35% of the total fertilizer tonnage sold in 1956 consisted of nonrecommended, low analysis grades such as 4-8-6. Also, many farmers are using improper fertilizer ratios. For example, 86% of the total fertilizer tonnage in south Georgia consisted of an even phosphate-potash ratio, such as a 4-12-12, but only 62% of this type fertilizer is needed. Only 1% of the fertilizer sold in South Georgia in 1956 was a low phosphate-high potash ratio, such as a 5-10-15, but 38% of the total tonnage should consist of this type ratio to insure good crop production. New and more economical forms of nitrogen offer opportunities to lower farm production costs. Also, poorly prepared liming materials and improper methods of lime application are restricting plant growth in many areas.

**Per acre Application of Fertilizer Is Too Low:** According to a recent USDA survey, the average application rate of nitrogen, phosphoric acid and potash per acre of harvested cropland in Georgia in 1951 was 20.6, 33.5, and 25.2 lb., respectively. These rates are equivalent to about 250 lb. of a 4-12-12 fertilizer plus 11 lb. of nitrogen side or top dressing per acre. Although these rates have increased slightly since 1951, present applications still are far below those recommended for successful growth of most crops.

**Average Per Acre Yield of Crops Is Too Low:** The average per acre yield of most crops in Georgia represents a low percentage of that potentially attainable by use of adequate fertilization and lime and other improved practices. Based on 1950 USDA results, it is estimated that the yields of some commonly grown crops could be increased by the following percentages: Corn grain, 73%; wheat, 64%; rye, 70%; barley, 46%; oats, 56%, soybeans, 78%; peanuts, 35%; lint cotton, 41%; tobacco, 13%, and hay, 78%. Although the per acre yields of all these crops has increased since 1950, they still remain far below optimum.

**Fertilizer is an Economical Production Tool:** One of the most economical production tools available to farmers today is fertilizer and lime. The average ton of fertilizer today is more than twice as valuable, in terms of crop production, to the farmer as it was in 1940. Fertilizer prices, based on plant nutrients, have risen only about 10% since 1940. Yet, prices farmers are now receiving for their farm products are more than twice as high as they were in 1940. Also, prices of land, labor, equipment and other productive items have increased much more than fertilizer since 1940. Fertilizer and lime can markedly low-

(Continued on page 12)




# What's New...

## In Products, Services, Literature

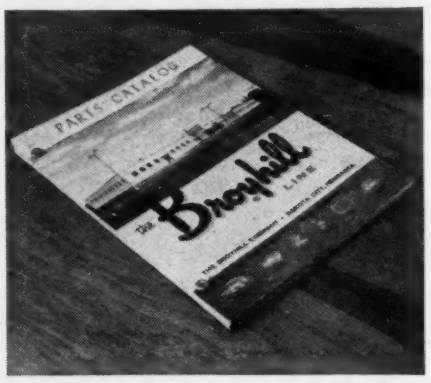
**You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.**

### No. 5786—Bag Tagger-Coder

Information concerning the bag tagger-coder furnished by the Mill Engineering Co. will be sent without charge to those interested. The coder attachment now available will apply a code to the tag as it is automatically injected into the sewing machine. The code can be changed in less than one minute by use of a special quick change feature, according to the company. "Considerable other information can be printed," the announcement states. The identification of pellets and crumbles can also be made. The inking roll is protected from dust and an air motor is used to eliminate electrical hazards. Check No. 5786 on the coupon and mail it to secure details.

### No. 6636—Parts Catalog

A new 134-page parts catalog listing 1,306 parts has been printed by the Broyhill Co. Fully illustrated, the catalog has a complete parts breakdown and prices on sprayer and fertilizer replacement parts and accessories for all makes of equipment. The catalog states that the company "maintains one of the largest parts inventories in the country and can provide fast efficient service from a




centrally located source." The catalog is free to companies requesting it by checking No. 6636 on the coupon and sending it to Croplife.

### No. 5789—Vibratory Feeders

The Eriez Manufacturing Co. announces the production of a new line of Hi-Vi electro-permanent magnetic vibratory feeders which are said to have greater output and move materials faster than units of comparable size. The drive element is completely enclosed. The feeder operates at 3,600 CPM directly off an AC line. An Alnico V lifetime magnet is part of the magnetic rectification system. Action is two-way, push-pull vibration. The company states that all types of materials, "dry, hot, abrasive, lumpy—may be conveyed, agitated, blended, cooled, dried or mixed" in the feeders. Check No. 5789 on the coupon and mail it to secure details.

### No. 6637—Vacuum Cleaner

The Hild Floor Machine Co. has introduced a new 15-gal. vacuum cleaner with a special intake that can be used with 1½-, 2- and 3-in. hoses, for light general vacuuming through heavy duty vacuuming. The motor can be detached for use as a portable blower, sprayer or "Strap-Bak-Vacuum." For complete information check No. 6637 on the coupon and mail it to Croplife.

### Also Available

**The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.**

### No. 5799—Marking Letters, Numbers

A new line of self-adhering numbers, letters and signs designed for marking off sections and bins in warehouses and other storage tanks for inspections and for positive identification of areas, overhead hoists and material handling equipment has been announced by the Westline Products division of the Western Lithograph Co. Numbers and letters are available in many size ranges and bold color combinations may be applied in seconds by simple pressure for permanent identification, company officials said. Samples and a catalog may be secured by checking No. 5799 on the coupon and mailing it to this publication.

### No. 6634—Spray Hose

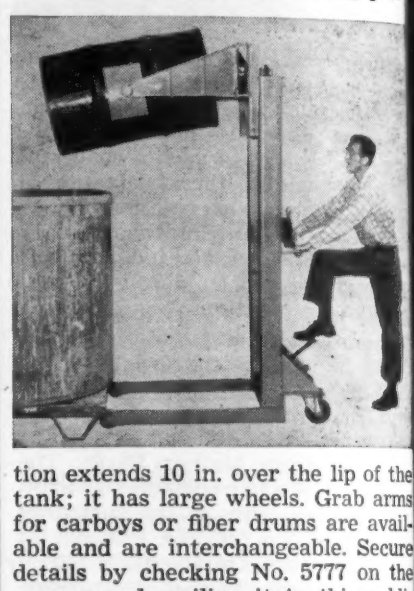
The Boston Woven Hose & Rubber Co., division of American Biltrite Rubber Co., Inc., has introduced a new line of Boston spray hose which includes hose for high, medium and low pressure service. The high and medium pressure hose is claimed to be able to handle all types of spray solutions, while the low pressure hose will handle all types of weed killing solutions and insecticides. The spray hose is claimed to be tough, weather resistant and able to meet rugged requirements. Descriptive literature, including all specifications, is available free. Check No. 6634 on the coupon and mail it to Croplife.

### No. 6633—Seed Treatment

The Rainbow Color & Chemical Co. has announced a product which is claimed to improve the heat resistance of plants. The chemical treatment, said to be economical and easy to handle, "shows a substantial increase in the resistance of the plants to high temperature exposure. It is also capable of improving resistance to salinity." Soils of a saline type, located in hot summer climates under adequate irrigation, can be used as good crop land with this method, it is claimed. Secure details by checking No. 6633 on the coupon and mailing it to Croplife.

### No. 5777—Drum Handler

The Hamilton Equipment Co., Inc., has developed a unit trade-named, the Hamilton drum handler for handling drums weighing up to 800 lb. Among the unit's features are: It is 6 ft., 6 in. high; one-man control; hydraulically-operated lift which will elevate a drum 56 in. in its vertical position and to 63 in. for pouring; the drum tilts easily and in the pouring position extends 10 in. over the lip of the tank; it has large wheels. Grab arms for carboys or fiber drums are available and are interchangeable. Secure details by checking No. 5777 on the coupon and mailing it to this publication.



### No. 6630—Water Soluble Film

A new water soluble, transparent packaging material said to be suitable for fertilizers, insecticides and other water dispersible products has been developed by the Reynolds Metals Co. Called "Reynolon" by the company, the new material is a polyvinyl alcohol, water soluble film. It is claimed to provide product protection during shipping and storage and will protect workers against harmful products. High speed bag forming and heat sealing equipment for the film is available, according to Reynolds officials. Secure details by checking No. 6630 on the coupon and mailing it to Croplife.

### No. 6632—Irrigation Timer

A newly designed irrigation timer recommended for farms, lawns or cultivated areas where sprinkling of one section at a time is required has been developed by the Zenith Electric Co. It is known as the model IRR, and the timer controls a number of sections in sequence. The length of time per section is factory adjusted but can be set to allow different times for each section. Twenty-four hour control is provided, and the timer can be cut out automatically any day of the week. To secure details check No. 6632 on the coupon and mail it to Croplife.

### No. 5818—Bag Packer

A bag packer—which bounces as it packs—is claimed to reduce labor and handling time while speeding up operations to 12 100-lb. bags a minute, announces the Richardson Scale Co. The G-73 impacker is used for packing burlap, cotton and jute bags. It gets its name from its vertical jouncing action, which jounces or impacts material into a bag held in place by clamps. The unit operates without noise or vibration to provide smaller, more compact, packages, according to company officials. Materials which can be packed include

**Send me information on the items marked:**

| | |
|---|---|
| ☐ No. 5737—Sanitation | ☐ No. 6630—Water Soluble Film |
| ☐ No. 5777—Drum Handler | ☐ No. 6631—Fertilizer Tanks |
| ☐ No. 5786—Bag Tagger | ☐ No. 6632—Irrigation Timer |
| ☐ No. 5789—Feeders | ☐ No. 6633—Seed Treatment |
| ☐ No. 5799—Marking Letters | ☐ No. 6634—Spray Hose |
| ☐ No. 5817—Sewing Machine | ☐ No. 6635—Pneumatic Pump |
| ☐ No. 5818—Bag Packer | ☐ No. 6636—Parts Catalog |
| ☐ No. 6629—Range Fertilization | ☐ No. 6637—Vacuum Cleaner |

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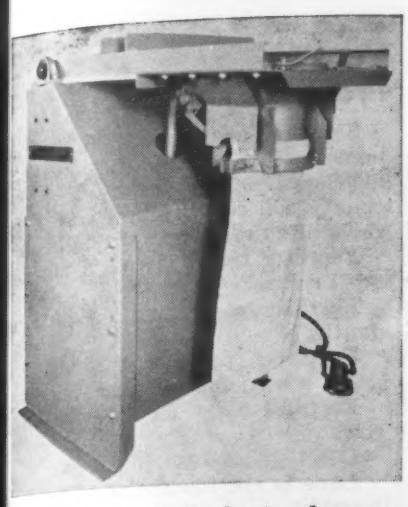


meals, mashes, hulls, beet pulps, molasses feeds and many others. For more complete details check No. 5818 on the coupon and mail it to this publication.

A brochure and price list for standard sized aluminum fertilizer tanks

## No. 6631—Fertilizer Tanks

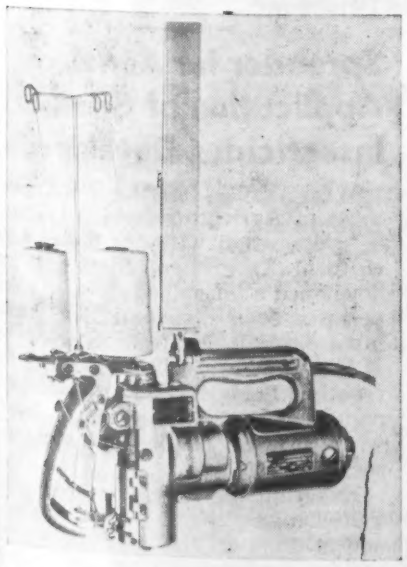
made by the Broyhill Co. are being offered. The brochure lists specifications for its line of Tori-Tanks and outlines construction and welding details. Various capacity tanks, ranging from 85 to 1,000 gal., are manufactured by the company. The tanks are designed for storing, transporting and applying liquid fertilizers. The company also manufactures both horizontal and vertical steel tanks and rubber lined tanks. Secure the literature by checking No. 6631 on the coupon and sending it to Croplife.

## No. 6629—Range Fertilization Booklet

A new booklet, "Range Fertilization," has been published by the California Fertilizer Assn. It contains information for livestock operators and can be secured from western fertilizer suppliers or through Croplife. Contents include sections on earlier grazing possibilities, increased palatability, more feed from the same acres, cutting labor costs, improved forage quality, making irrigation pay, fertilizer carry-over, and how much, when and which to fertilize. Check No. 6629 on the coupon and mail it to Croplife to secure a copy of the booklet.

## No. 5817—Electric Sewing Machine

The Burrows Equipment Co. has announced details of the Union special portable electric sewing machine for which it has been named distrib-



utor. The class 2,100 lightweight bag closing machine weighs 9½ lb. and may be mounted on a pedestal or suspended and is operated by a handle switch or foot pedal control. Cotton, burlap, jute, multiwall and tar laminated paper may be utilized. It operates at 1,200 to 1,700 stitches per minute and uses a two-thread stitch. For details check No. 5817 on the coupon and mail it to this publication.

## No. 6635—Pneumatic Pump

A pump, trade named Pneuma Pump, for chemicals, oil and water, has been announced by Pneuma Pump of America, Ltd. The unit consists of a compressor, motor and a distributor mounted on a base and is connected to the pump body by metal, rubber or plastic piping to the distributor. The unit is said to be able to pump sludges, liquids carrying solids or corrosive or abrasive material and fluid carrying gases, and is adaptable to chemical plant use. Secure details by checking No. 6635 on the coupon and mailing it to Croplife.

## No. 5737—Grain Sanitation

A free grain sanitation service is described by the Douglas Chemical Co. in a new 14-page catalog. The catalog lists and describes the firm's line of products and also describes the service, which consists essentially of four parts: (1) inspection, (2) detection, (3) evaluation and report, and (4) recommendation. A copy of the catalog will be sent without charge. Check No. 5737 on the coupon and mail it to this publication.

## Irrigation Continues To Expand in Texas

COLLEGE STATION, TEXAS — The amount of land in Texas under irrigation totals 6,962,234 acres, compared with 6,208,022 acres in 1955, according to a survey completed by R. V. Thurmond, Texas A&M extension agricultural engineer.

When the figures were taken, 39,706 farms were listed as being irrigated. Only 10 counties in the state reported no irrigation. The number of irrigation wells rose from 42,674 in 1955 to 54,994 in 1957. The number of sprinkler systems in use almost doubled during this same period with a 200,000-acre increase in the land thus irrigated.

Grain sorghums on almost 2.3 million acres were the principal crop irrigated. Cotton was a close second with almost 2.2 million acres under irrigation. Other major crops included wheat, rice, vegetables, pastures, alfalfa, field corn, oats and barley, forage sorghums, orchards and others.

Hale County with 500,000 acres under irrigation leads all counties in this respect but is closely followed by Swisher with 480,000 acres. Many other counties in this same general area have in excess of 300,000 acres under irrigation.

### STOP-DROP SPRAYS

BLACKSBURG, VA.—Details about stop-drop hormone sprays are given in a leaflet, "Stop-Drop Sprays for Apples," published by the Virginia Polytechnic agricultural extension service.

# INTENSIFIED PROGRAM

(Continued from page 9)

er the unit cost of crop production by vertical expansion without contributing to the present-day crop surplus problem.

**Proper Use of Fertilizer Pays Unbelievable Dividends:** At recent prices, investments in companies such as General Motors, United States Steel, General Electric and others pay 3 to 6%. Yet, it is not uncommon to obtain returns of 100 to 300% on money spent for fertilizer and lime. Such returns are almost unbelievable to the average investor.

All the above statements point up the significant role fertilizer and lime can play in improving the economic position of agriculture, business, and industry in Georgia. It should be apparent that increased crop production and resultant greater farm income in the future will, to a large extent, be dependent on more intelligent fertilizer usage. Other factors such as irrigation, improved insect and disease control, and use of better seed will also be important to more profitable crop yields in the years ahead.

## Objectives of Program

The primary goals of the intensified program are: (1) to cause farmers and business leaders to become more conscious of the major role fertilizers and lime can have in making a better Georgia agriculture, (2) to assist farmers in carrying out the best-known fertilizer and lime practices, and (3) to increase farm, industry and business income by sound fertilization methods. With these goals in mind, the following points have been drafted as a guide for leaders to use in:

**Helping farmers to:**

Recognize the over-all importance of fertilizers and lime in crop production.

Become more prosperous by efficient fertilizer and lime usage.

Learn more about soil characteristics and management.

Know more about the rate and kind of fertilizer and lime to use.

Become better acquainted with the economic value of fertilizer and lime.

Realize that the soil and its fertility is basic to a sound agriculture.

Know more about the role and characteristics of various kinds of fertilizer and the plant nutrient requirements of different crops.

Understand that adequate fertilization rates must be accompanied with other improved practices such as good seed, insect and disease control, and weed control.

Overcome old ideas and traditions related to fertilizer usage.

**Assisting the fertilizer industry to:**

Realize that increased educational work is needed to bring about more efficient fertilizer and lime usage.

Sponsor demonstrations that point up good fertilizer and lime practices.

Prepare educational materials and exhibits on fertilizer and lime.

Understand that improved fertilizer practices will increase their total net profits.

Work more closely with official agricultural leaders.

Join forces in a united all-out attack on increasing fertilizer and lime know-how.

**Aiding business leaders to:**

Realize that their net profits depend largely on the economic position of farm people.

Develop more awareness of the fact that the soil is the most basic resource in their area.

Understand that the proper management of the soil is almost as vital to their economic welfare as to the farmer.

Recognize it is to their economic advantage to take more than a "passive" interest in a program to promote greater fertilizer and lime know-how.

## Developing and Conducting The Program

The leader of the intensified fertility program in each county will be the county agent. The specific details of the campaign will be worked out by the county agent with assistance from the extension service agronomists, his district agent, and others.

Other sources of leadership and aid which might be developed are:

Agronomists from the fertilizer industry, fertilizer manufacturers and dealers, county agricultural workers (SCS, vo-ag teachers, home demonstration agents, FHA, PCA, and others), civic clubs, Farm Bureau, bankers, TV, radio and newspaper editors, 4-H clubs, community organizations.

Chambers of Commerce, home demonstration clubs, business organizations, seed dealers, farm bank managers, ministers, rural mail carriers, county development committee, county court house officials, and farm equipment dealers.

The extension service agronomists will prepare a detailed summary of the fertilizer and lime requirements of each county. This information will be based on soil characteristics furnished by the SCS, long-time soil test results, fertilizer consumption data, fertilizer and lime research findings, cropping systems, and other factors. This information will be evaluated so that an estimate can be made of current county income and income which could be obtained with a sound fertility program. After surveying this information, thereby locating specific needs, the county agent will be in a position to develop details of the program on a county basis.

To make this program effective, additional support will be provided by other specialists such as horticulturist, entomologist, irrigation and farm management. Fertilizer will not prove profitable unless it is used in conjunction with other good practices.

## Program Ideas

Certain ideas may be helpful to develop interest and stimulate action on the program. Some of the suggested ideas are new while others are old but which, nevertheless, have proven useful in other projects of a similar nature.

Present program to county program development committee and obtain their full support.

Form a county soil fertility work group from county program development committee, consisting of farmers, business leaders, newspaper editors and others.

Present program to all organizations in county, such as civic groups, community clubs, home demonstration clubs, 4-H clubs, Farm Bureaus, and others. Enlist their aid on some phase of the campaign. For example, establish "high fertility" farms, sponsor county-wide fertilizer contests, or develop a 4-H Club exhibit day.

Develop a soil fertility day or week. Enlist aid of all business groups. For example, a special sales day by business concerns. A square dance may be held called "Soil Fertility Hoedown" to climax day or week.

Have a 4-H Club soil fertility exhibit contest. For example, prepare exhibits and window displays for stores. Local fertilizer dealers or civic clubs may be willing to sponsor such a contest.

Prepare radio tapes. For example, have several county leaders to endorse program and also interview farmers using good fertilizer practices. Tapes should also be prepared by extension agronomists and county agent on various subject matter.

Plan a special newspaper release on fertility program. In the release, urge business leaders to support fertility program in regular or special advertisements. Work with local newspaper editor on this suggested idea.

Appoint farm leaders or Farm Bureau units in different communities to act as soil sample information agents. Supply them with bags and information sheets to pass out to farmers.

Develop TV shows on soil fertility program.

Organize a direct mail campaign for farmers on fertilizer and lime practices and needs.

Visit farms and discuss program with individual leading farmers.

Enlist full assistance of fertilizer industry in establishing demonstrations, direct mail program and in personal contacts with farmers.

Make intensive use of all films and slides on soils and fertilizers in state office.

Prepare a feature exhibit on program to point up the importance of fertilizer and lime as a major factor toward improving county economic welfare. This exhibit could be set up in a central area such as the court house.

## Pin-Point Plans

It would be impossible to execute all phases of the intensified program in each county. Therefore, it is suggested that those subjects be chosen which represent the most urgent need and which will stimulate the greatest interest. Here are examples of pin-pointed subjects:

Special newspaper issue; 4-H Club exhibit day; fertilizer demonstrations; stimulate banker interest; enlist aid of fertilizer dealers.

The pin-pointed plan offers the advantage of being able to give more time and effort to important aspects of the program. The plan also provides an opportunity to develop an organized county program. For example, the program might be divided into certain activity periods such as:

First period—present program to county program development committee.

Second period—form a county soil fertility committee to aid in promoting program.

Third period—concentrate on presenting program to all civic clubs in county.

Fourth period—organize a 4-H Club exhibit day in store windows.

Fifth period — develop a special newspaper release on soil fertility by working with local editors and business leaders.

Sixth period—present program to all farm groups or organize special meetings.

These examples illustrate how the program might be divided into separate activities. The time devoted to each period may vary from one day to two weeks or more. It is also possible that two or more periods can be executed at the same time.

## Develop Program Leaders

The program will be only as strong as the leaders make it. Therefore, it is essential that every effort be made to develop strong and enthusiastic leadership. The official leaders, the county agents, and their assistants, the extension agronomists, must realize that they can not do the job alone and their main task is to stimulate others to join forces with them. Such leaders may be bankers, fertilizer dealers, business representatives and others.

The leaders must further determine and analyze all factors that may prevent the program from being successful in any individual county. These factors must be dealt with and, if possible, removed or else their presence must be recognized so they will not defeat the program. Also, adequate recognition should be given to all leaders for outstanding accomplishments. A pat on the back for a job well done, favorable mention in the local newspaper, and words of encouragement are helpful forms of recognition.

## Program Slogans

Slogans are useful in "driving home" a message. Slogans might be developed around the most common county soil fertility problems. A few thought-starters are shown below.

Fertilize the modern way for bigger profits.

Fertilize wisely and harvest abundantly.

Fertilizer provides two blades of grass where one now grows.

Fertilize today for a better tomorrow.

Don't guess—use soil tests.

Lime is the foundation of good soil fertility.

Fertilize and lime for better farming—better living.

The earth gives life to all through the soil.

Fertilizer pays off in higher yields and bigger profits.

Fertilizer offsets decreasing acres and yields.

## Check Results

The program leaders should take stock of accomplishments at periodic intervals. A frank analysis should be made of all results obtained and educational methods used. Bench marks of possible accomplishments should be established at the beginning of the program and evaluated at a later date to determine progress. A complete summary of the program should be prepared after a certain time interval.

## The Challenge

The real challenge of this intensified soil fertility program is to point up the important role of fertilizer and lime in this age of increasing population where more strain is being placed on fewer and fewer good acres. Georgia's future depends on an efficient, profitable, and expanding agriculture. To achieve this goal, the productive power of the soil, in which everyone has a stake, must be improved with sound fertilizer and lime practices.

"What a man sees, he may doubt. What he hears, he may possibly doubt. But what he does himself, he can not doubt." Seaman Knapp, the greatest and wisest of southern demonstration leaders, said this in 1905. Knapp also prophesied that, "The crop will grow, but the man will grow faster than the crop." The beneficial growth that can result from an intensified soil fertility program on an individual county basis will bring a new brightness to each county—strong at the groundline—forever enduring.

Remember the slogan, "Sound Fertilization Today Will Give a Better Tomorrow."

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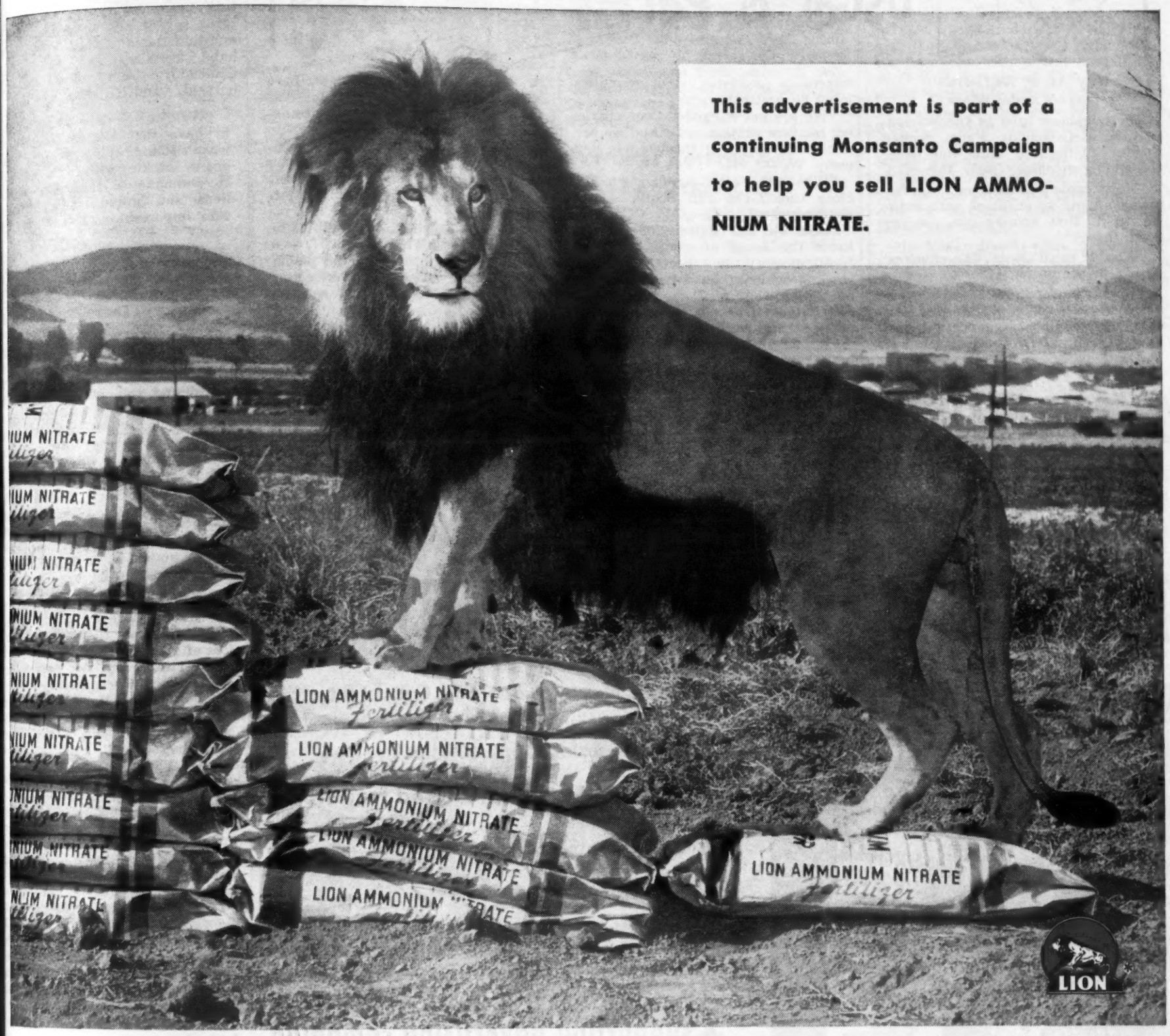
# Spreader for Aerial Application of Granular Insecticides Developed

WASHINGTON—The U.S. Department of Agriculture said Oct. 1 that, in cooperation with the Texas Agricultural Experiment Station, it has developed a fanshaped spreader which permits even distribution of granulated insecticides from aircraft.

This provides a uniform swath for treating fields infested with the Japanese beetle, European chafer, white-fringed beetle and other insects, USDA said.

Experiments were conducted with a Stearman airplane with a 450-horsepower engine. The material applied was a granulated clay that passed through a 30-mesh screen and remained in a 40-mesh screen. The Agricultural Research Service researchers used dieldrin in Tennessee, Georgia and Alabama experiments against the white-fringed beetle. The distributor gave a uniform swath pattern at an altitude of between 25 and 70 feet at an airspeed of 100 miles an hour with application rates of 20 to 30 lb. per acre, USDA reported.




*Trade-mark of Monsanto Chemical Company

# You save money with LION in your fields

## LION BRAND AMMONIUM NITRATE IS MORE ECONOMICAL THAN NITRATE OF SODA OR AMMONIUM NITRATE–LIMESTONE CARRIERS

**FOR LOW-COST NITROGEN,** LION Ammonium Nitrate is the brand. Guaranteed to contain 33.5% nitrogen, LION is . . .

- **Far more economical** than nitrate of soda, which contains only 16% nitrogen. You get more than *twice as much* of the valuable plant food, nitrogen, in every bag of LION brand Ammonium Nitrate than you do in any bag of nitrate of soda.
- **A better buy** than 20.5% ammonium nitrate–limestone carriers, LION gives you *better than* 50% more nitrogen in every bag.

**FOR EASIER SPREADING,** Lion Ammonium Nitrate is in pellet form. These pellets are specially coated to withstand caking . . . then packed in specially lined, moisture-resistant bags. Result: LION brand is *guaranteed* to flow freely—*not for just a year, but until used*—when you follow storage directions on the bag.

### 3 EASY STEPS TO GET *ALL* THE FEEDING-POWER YOUR CROPS NEED

**1. TEST YOUR SOIL** to see what kinds and amounts of fertilizers are needed. Your local farm authorities will help.

**2. ORDER WHAT YOU NEED** of mixed fertilizer and Lion brand Ammonium Nitrate from your fertilizer dealer. When you buy LION, you get top-quality, low-cost nitrogen fertilizer *guaranteed* to flow freely; *guaranteed* to contain 33.5% nitrogen.

**3. APPLY THE FULL AMOUNT** of mixed fertilizer and Lion brand Ammonium Nitrate soil tests indicate. Don't skimp—fertilizer is the least expensive item you use for crop production.

**GROW MORE PROFITABLY** ... Weed Killers • Brush Killers • Parathion Insecticides • Meta-Green® to keep silage fresh • Phosphates (liquid and solid) • LION Sulphate of Ammonia • Anhydrous Ammonia.

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Doing Business With

# Oscar & Pat


By AL P. NELSON
Croplife Special Writer

The telephone rang in the Schoenfeld & McGillicuddy Farm Supply Store, and because Tillie was using the adding machine, Oscar answered.

"Hey," came a gruff voice," you fellows sent me an envelope with nothing in it. How screwy can you get down there?"

"What?" cried Oscar. "An envelope with a 3¢ stamp on it?"

"Sure. You fellows better slow down if you wanna live longer. An extra dollar ain't so important you have to rush so hard you forget to put letters in envelopes. Gee, you guys must be pretty hoggish."

"We are not hoggish," Oscar barked, his face getting red. "And we are not in the habit of throwing money away. We—"

"What's the letter you forgot to enclose then? I'm Jim Scalla and I wanna know."

Oscar was one of those fellows who knew the name of every customer from memory, not because of his sterling qualities, but whether or not he owed the fertilizer firm any money, and if he paid his bills when due, or long overdue.

"No, we ain't got no letter for you," he came back. "You bought here about two years ago and it took us three months to collect. Go buy someplace else." And he hung up.

"Himmel, we don't want his business." Then, frowning, "Tillie, did you send that Joe Scalla a letter about something, and forget to slip the letter inside?"

Plump, ulcerish-inclined Tillie shook her head. "No, why?"

"Ach, that was him on the phone. We had an awful time collecting money from him two years ago, remember?"

Before Tillie could answer a tall, lanky farmer in overalls came ambling in. In his hand he carried envelope.

"Say," he drawled, "did you fell send me a letter and forget to slip in the envelope?"

Oscar looked dumbfounded. took the envelope from the farme hand, saw it was postmarked loca and that the imprint at the upper l hand corner was "Schoenfeld & M Gillicuddy." "Ach, you got one, too he said. "And it's stamped!"

**"Well, if you don't mind, I'd lik to have that letter," he said. wasn't coming this way today, but got to thinking of it takin' my hog to Dubuque to the meat packi house and figured it must be some thin' important, so I druv over th way."**

"There has been a mistake," Osc said. "Ach, we have no letter you. Somebody was a dumbhe aroundt here. They used a stamp nottink."

The farmer looked very disappoin ed and turned to go away. At t moment the door from the wareho opened and tall, blue eyed McGil cuddy came in.

"Oh, hello, Frank," he said. "Gl to see you. Where have you be keeping yourself?"

The farmer held up the envelo "Over to the other end of the coun It's closer to buy there. But I ge this letter from you guys—an env lope and no letter inside. I'm a cu ous guy and so I druv over to see i missed something."

**"Well, Frank, we sure missed yo not trading here the last year an a half, because we think we hav lots of good buys for you, such as fall fertilizer deal where you ca save money. We sent empty env lopes to each of the customers th we haven't seen for a long tim just sort of hoping they'd com back and see us."**

"Well, Pat," said the farmer, " kinda nice to know you missed m But as I say I am closer to the tow the other end of the county. I w always treated okay here, but y know I drifted closer to home. Dun why. I just did. Well, I gotta goin'."

Pat looked a little disappointed the farmer left, and then Oscar him have it. "Three cents for a sta and a cent for each envelope," he s icily. "McGillicuddy, have you go crazy altogether? Himmel, what fo ishness."

Pat sighed disappointedly. thought it would make people curi enough to come back and ask qu tions and we could win them as c tomers, but maybe I was mistaken.

"Ach, you bet you are mistake Oscar scolded. "You are mistaken the time with the crazy stuff you to sell. Stop it for about two ye and maybe we can breathe a lit easier. Empty envelopes and w stamps on them. Das ist genug!"

The front door of the store open A red faced, jovial farmer in overa came walking forward. In his ha he held an envelope. At the same ti the warehouse door opened again. was the farmer named Frank. "N while I am here, Pat, what is th fall fertilizer deal you are talki about? No use of my goin' back ho till I find out. Maybe I kin save so money for myself. I ain't sayin' buy, but I'll listen."

**"Good," said Pat with sudden en thusiasm. "Come in and sit dow and we'll talk about it." He opene the gate to the railed in office an smiled graciously as the farme stepped in.**

"I got this envelope with no let in it," he said apologetically," and old lady wouldn't give me no rest til I comes in and finds out what letter said. Is it important?"

"Can you wait for a moment?" s Tillie graciously, handing the mar chair. "Mr. McGillicuddy will expl that letter. I am sure he wants to you about it, too."

# FARM SERVICE DATA

**Extension Station Reports**

Arkansas farmers could increase eir livestock profits if they would cognize the importance of control- g cattle lice and ticks, according to . J. L. Lancaster, Jr., associate en- mologist with the University of Ar- nsas' Agricultural Experiment Sta- n.

Dr. Lancaster surveyed farms and und the long-nosed louse at work ost frequently. He didn't find little ue lice very often, but they usually ngregated in greater numbers, hich probably makes them of great- importance when they do occur. e cattle biting louse was next in der in showing itself in populations low to moderate numbers. He sel- m saw the short-nosed cattle louse.

In studying the lone star tick, Dr. ancaster noticed that improved per- anent pastures offer the most effec- ve tick control. Relative humidity elow 69% harmed all stages of ticks. here is a relationship between round cover and relative humidity: he thicker the cover—the higher the umidity. Open pasture is, therefore, n unsuitable home for ticks. Tick in- estation was reduced in a pasture hen cattle grazing on that area ere sprayed every three weeks dur- g the tick season.

★

South Carolina peach growers are eing urged to combine two important ll practices in their orchard work is fall. These practices are planting ll cover crops and proper fertiliza- on. Roy J. Ferree, leader, Clemson xtension horticulture work, said that ese two practices go hand in hand nd that full benefit will not be de- ved from either of them alone.

**He said a cover crop planted in the orchard without an adequate application of proper fertilizer will not produce the desired amount of growth to be of maximum value in conserving soil and organic matter and in adding plant nutrients to the soil. On the other hand, he said, fertilizer applied to peach orchards will not return full value without a cover crop.**

A winter cover helps to conserve he nutrients and return them to the oil at a time when the peach trees an use them. It also conserves water nd improves the soil tilth.

"The planting of winter cover crops n conjunction with proper fall ferti- ization is a most important combina- ion of practices for commercial peach rchards," Mr. Ferree stated. "Ero- ion is taking a heavy toll in many rchards of the state. Not only is a rge percent of the fertilizer applied eing leached out of the soil but the est topsoil is also being washed way, particularly in Piedmont or- hards.

"The fact that yields of fruit per cre on these eroded hills are the low- st in the state should be an incentive o the growers to carry out practices o conserve soil and fertilizer to im- prove their yields."

Mr. Ferree suggests applying from 00 to 600 lb. of 4-8-12 or 4-12-12 fer- ilizer per acre at the time of seeding.

★

If breeding places of rice field mos- quitoes are adequately destroyed, resi- dents in rice areas should be compara- tively free of these pests for a dis- tance of about four miles from a given protected area. In a bulletin just released by the University of Ar- kansas' Agricultural Experiment Sta- tion, Dr. F. E. Whitehead, entomolo- gist, points out that less than 3% of the mosquitoes originating from out- side will fly more than four miles to get into an area. Actually, in a study he conducted in Lonoke County, only 10% of the mosquitoes were trapped in an area further than 1.7 miles from the nearest rice.

★

Fertilizer and lime are soil savers as well as yield boosters. Fields that were treated with fertilizer, lime and manure not only produced more crops per acre, but retained 11 more inches of topsoil than did unfertilized fields in Illinois tests. The tests covered 17 years of rotation farming at the Elizabethtown, Ill., soil experiment field.

Each of the test plots was on a 10% slope. Contour farming was used during only five out of the 17 years. University of Illinois agronomists point out that as the productivity of the soil is built up, the land has greater protection from erosion. When a soil is rich in organic matter and produces good cover and high yields, it will not erode nearly as fast as soils low in both organic matter and productivity.

## Fertilizer Returns Net Of $12.60 an Acre

FARGO, N.D.—How fertilizer can increase crop yields was demonstrated this season on the Alex Miller farm 8 miles southwest of Manfred, N.D. in Wells County.

While low yields were not a problem, Mr. Miller decided to try fertilizer on an experimental basis in the hope of increasing his yields and profit. He followed the advice of Charles W. King, Wells County extension agent, on type and rates of fertilizer to use. He also cooperated with the county agent in checking actual yield differences.

Mr. Miller applied fertilizer on Selkirk wheat seeded on summerfallow. The fertilized land yielded 39 bu. per acre with a test weight of 56 lb. and dockage of 3.5%, as compared with unfertilized land which yielded 31.3 bu. per acre with a test weight of 56 lb. and 5% dockage.

Cost of the fertilizer used by Mr. Miller was $2.80 per acre. The gross increased return per acre was $15.40 and the net profit, not including the cost of fertilizer attachment, was $12.60 per acre.

Mr. Miller says he plans to fertilize all his wheat, durum and barley in the future. While actual yield differences were not checked in other fields, Mr. Miller did leave strips in all fields to compare the effects of the fertilizer.

# BUG OF THE WEEK

**Mr. Dealer—Cut out this page for your bulletin board**

## White-Fringed Beetle

### How to Identify

The beetles are dark grey in color and their bodies are covered with thick short hairs. Length of the bug is usually less than a half inch. The wing covers, or elytra, are grown together so the insect cannot fly, but it is able to crawl and can travel a half mile or more over a period of time. The edges of the elytra are fringed with white, giving the insect its name.

### Habits of White-Fringed Beetle

During most of the summer (usually May to August), adult beetles emerge and begin to hunt food plants. No males of the species have been found and the females reproduce parthenogenetically. When the female is but a dozen days old, she begins to lay eggs numbering in the hundreds. The eggs are light colored, oval in shape and are deposited as many as 60 to the cluster, in slightly sticky masses so they adhere to plant stems, stones and other objects near the ground. These egg masses are difficult to observe, since soil clings to them. From two weeks to two months are required for hatching, depending upon the temperature. Larvae feed below ground, doing damage to the lower parts of stems and taproots of many plants. Usually, there is but one generation of white-fringed beetle in a single season.

### Damage Done by White-Fringed Beetle

These bugs attack a wide variety of crops, the number of susceptible species of plants being estimated in the hundreds. Much of the damage is done by the grub stage of the insect, when it attacks roots of cotton, tobacco, peanuts, corn, sugarcane, sweetpotatoes, clover and other field crops. (The U.S. Department of Agriculture on April 14, 1955, extended the white-fringed beetle regulated areas to include additional parts of Alabama and Tennessee. A total of eight states is included in the quarantine against the pest.)

### Control of White-Fringed Beetle

Various methods suggested include both the use of chemical toxicants and also physical barriers to stop migrations. In the latter case, ditches may be dug with vertical sides, making it impossible for the beetles to get beyond the area. Thus trapped, the bugs may be killed with oil. A number of insecticides are mentioned for control of the insect.

Illustration of White-Fringed Beetle courtesy of U.S. Department of Agriculture.

LD TIMES REVIEWED—Frank cQuade, right, retired from Olin athieson Chemical Corp. Baltimore ct. 1, talks over old times with A. Verdery, northeastern district anager of the plant food division. r. McQuade has been in the chemi- l field for some 42 years, and was officer of Standard Wholesale hosphate and Acid Works, Balti- ore, before its merger with Olin athieson in 1950. Since then, his ng experience has been utilized in upervising the export of fertilizer roducts from the plant at Curtis ay, Baltimore, Md. Mr. McQuade, ith his wife, expects to spend win- ers in Florida and the remainder of he year at their farm near Baltimore.

## Nott Manufacturing Acquires Control of Rose Manufacturing

MT. VERNON, N.Y.—Nott Manufacturing Co. announced Sept. 30 that it had acquired control of Rose Manufacturing Co., Beacon, New York, manufacturers of the "Tri-Ogen" line of rose sprays and rose food.

Bob Harkins, Nott president, said that the acquisition of Rose was part of Nott's general expansion program to offer its distributors a full and complete line of nationally established brands of insecticides, fungicides, herbicides, specialty fertilizers, rodenticides and related allied products.

Herb Harkins, who has been actively associated with the Nott organization, has been elected president of Rose.

## William Cumming Rose Named Recipient of Charles F. Spencer Award

KANSAS CITY—Dr. William Cumming Rose, Illinois biochemist, has been selected as the 1957 recipient of the Charles F. Spencer Award for meritorious contribution to agricultural and food chemistry. The award is sponsored by Kenneth A. Spencer, president of Spencer Chemical Co., Kansas City, and it is administered by the Kansas City Section of the American Chemical Society.

Dr. Rose, professor emeritus at the University of Illinois, has pioneered in the field of protein and amino acids.

The Spencer Award, founded by Kenneth A. Spencer for his father, Charles F. Spencer, who died in 1942, includes a medallion and a $500 honorarium.

Dr. Delta W. Gier, chairman-elect of the Kansas City Section of the ACS, made the announcement of the award recipient. Presentation of the award will be made by Kenneth A. Spencer on Nov. 9 in Kansas City at the annual fall chemical conference sponsored by the Kansas City Section of ACS.

### YELLOW DWARF

NEW BRUNSWICK, N.J.—Yellow dwarf, a virus disease of sweet potatoes, threatens the future of sweet potato growing in New Jersey, warns a Rutgers University plant disease specialist. Dr. Robert H. Daines, Experiment Station researcher, says the disease is suspected to have come into the state on sprouts from Georgia last year.

## Economist Stresses Importance of High Cotton Yields

SHREVEPORT, LA.—High cotton yields are essential for the small operator whose acreage allotment has cut him sharply below the potential season's capacity for one mechanical picker, according to Dr. Trimble R. Hedges, agricultural economist, University of California, Davis. Dr. Hedges discussed realizing the greatest gains from mechanically picked cotton at the Beltwide Cotton Mechanization Conference here.

"Sound technology, up-to-date know-how and capable management are the critical factors in getting profits from a mechanical picker," Dr. Hedges said. "Efficiency is kept at a maximum by an alert, well-trained operator."

The dramatic yield increases of recent years, the increased knowledge on the part of farmers of how to prepare the crop for machine harvesting, and how to operate the machine effectively have helped to keep costs down on reduced acreages, according to the speaker.

"Farmers have given closer attention to such practices as nematode control not only to increase yields, but also to have cotton which is more uniform in growth and maturity," Dr. Hedges said. "Yet one of the pressing problems today is that some farmers still have much to learn, and have a great deal of room for improvement in how to use their mechanical harvesters."

The producer of 50 to 200 acres of cotton is under pressure to use his machine efficiently so as to minimize great field losses, the speaker said. It is harder to get a given amount of profit out of a harvester today than it was seven years ago.

Marvin Hoover, cotton specialist, California Agricultural Extension Service at Shafter, collaborated in preparation of the paper.

## Vulcan Adds New Steel Drum Size

BELLWOOD, ILL.—George E. McMahon, executive vice president of Vulcan Containers, Inc. here, has announced that the firm is extending its output of steel containers to include mass production of 55-gal. drums. He said that the step was taken because rising production, boosted by automation and other technical developments, has increased the need for steel packaging in a number of industries.

Mr. McMahon said that the company will continue to produce a wide variety of smaller steel shipping pails, ranging in size from 1 to 15 gal.

### COMMISSION ASKED

OLYMPIA, WASH.—Eastern Washington alfalfa and clover seed producers have petitioned Joe Dwyer, Washington state agriculture director, to start the procedure for creating a legume seed commission.

## SHOP TALK

# OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

Fertilizer sales people have an excellent opportunity to help farmers combat higher costs of farming and get better returns by showing them how to make necessary adjustments in production and marketing practices, said Dr. C. C. Murray, dean of the Georgia extension service at a series of dealer training meetings in Georgia.

Dr. Murray said one of the most important factors of production in southern agriculture is fertilizer. The wise use of fertilizer and lime on both forage and row crops in Georgia can do much to stabilize production and increase returns to the farmer.

"We believe," said Dr. Murray, "that a dealer can do a better job of meeting the fertilizer and lime needs of his customers, thus improving agriculture's economic position, if he is well informed. The theme for the meetings, 'knowledge is the root of success,' is indeed well chosen."

Significant observations were made by another speaker at the meetings, all of which point to the conclusion that in Georgia—as well as in the entire U.S.—there exists a vast sales potential for the fertilizer industry.

"Georgia farmers are using only about one-half of the recommended amounts of fertilizer and one-third of the recommended rates of nitrogen," said P. J. Bergeaux, extension agronomist. He continued:

"These low rates of fertilization are largely responsible for the low average per acre yields such as: 24 bu. for corn, 336 lb. of lint cotton and only 100 lb. of beef gain per acre.

"Approximately 300,000 tons of lime was used in Georgia in 1956 on about 4.5% of the total cropland and improved pasture acreage in Georgia. Soil test data indicate that over 50% of the soils in the state are acid and need lime. Research workers estimate that a minimum of 2,000,000 tons of lime are needed annually.

**"It is evident that there exists a vast gap between the amount of lime, fertilizer and nitrogen actually used in Georgia and that recommended by the college of agriculture."**

Mr. Bergeaux went on:

"Education in the use of lime concerns the fertilizer salesman as well as the lime salesman. For a farmer to obtain maximum results from applied fertilizer, the lime needs of a soil must be met first. An agronomist for a major fertilizer company once said, 'I would prefer for a farmer to use a competitive brand of fertilizer on an acid, unlimed soil for he would then blame my competitor's products for the resultant poor yields.'

**"A total of 1,058,544 tons of mixed fertilizer were sold in Georgia in 1956 and had farmers followed recommended rates, 1,878,000 tons would have been used. In other words, there is a potential market almost double the amount of mixed fertilizer currently being sold.**

"According to the county estimate, 94,317 tons of actual nitrogen were used on the major crops and forage grown in Georgia in 1956. If farmers had followed recommended rates per acre of nitrogen they would have used approximately 223,000 tons of actual nitrogen. There is a potential market for nitrogen of almost 2½ times the amount currently being used.

"It is realized that many factors are responsible for the amounts of lime, mixed fertilizer and nitrogen used by individual farmers. The more important of these factors are: Type of soil, weather conditions, amount of credit available and managerial ability of the farmer. However, research has proven and extension demonstrations have demonstrated that adequate use of lime, mixed fertilizer and nitrogen on the major soil types of Georgia combined with other good management practices will result in higher per acre and more economical yields than the average Georgia farmer is now producing.

"You, as a fertilizer, lime or nitrogen salesman, are therefore faced with a challenge. You stand at the crossroad of failure or success. Two avenues of approach are available to you. You can follow the road of least resistance and status quo by basing your sales policies on methods that are as outdated as the horse and buggy. These methods are based on selling fertilizer on price per ton alone and whoever sells the cheapest per ton gets the most business. This approach can only lead to eventual failure.

**"The other avenue available is one linked to an educational program. This policy is not based on price per ton alone but on convincing farmers that adequate fertilization of the correct fertilizer ratio will mean more profit to him.**

"It is more logical to sell a farmer correct fertilizer know-how and to increase his application to proper levels than to try and save him a dollar or two per ton of fertilizer. By following this avenue of approach a fertilizer salesman will not only be increasing his own business, but he will be performing a real service to the area he works. For increased use of the proper ratios will mean more farm profits and a more prosperous and stable agriculture for Georgia."

## Kirk Fox Retiring As Successful Farming Editor

DES MOINES—Kirk Fox, editor of Successful Farming magazine since 1928, has announced his retirement effective Dec. 1. Fred Bohen, president of Meredith Publishing Co., concurrently announced Mr. Fox's appointment as editor emeritus, effective the same date, and named Dick V. Hanson, 32, editor.

Mr. Fox, who will be 65 in November, joined the farm magazine in 1922, when the late E. T. Meredith, Sr., purchased the Dairy Farmer, a Waterloo farm publication. Mr. Fox, at that time, was associate editor of the Dairy Farmer. He became associate editor of Successful Farming and continued in that position until he was named editor in 1928. Mr. Hanson, executive editor of Successful Farming since September, 1955, joined the farm publication in 1949.

### GRACE APPOINTMENTS

NEW YORK—Grace Research and Development Division of W. R. Grace & Co., has announced that Dr. Calvin J. Benning, Dr. Razmie S. Gregorian and Dr. Frank Andrew Mirabile have joined the staff as research chemists.

## FALL APPLICATION

**FARGO, N.D.—Nitrogen fertil applied in the fall is giving as g results as fertilizer applied in spring in eight trials conduc by the North Dakota Agricult College Experiment Station in 19 Fall applications of several forms nitrogen fertilizer were made, the results were equal to spring plications of the same materials. fertilizers were applied on nonfall land being used for hard wheat durum wheat production. Virgil W er, soils extension agent at the colle said that prospects now are especi ly good for fertilizing for next yea crops in areas where good subs moisture supplies already are assur by recent heavy rains.**

## Dorr-Oliver Realigns Company Organization

STAMFORD, CONN.—Realig ment of organization aimed at panded activity in project work w announced by Dorr-Oliver on Oct. While the organizational changes volve only the staff of the pare company, the practical results are pected to affect materially the co pany's ability to cover and service engineering markets of the wor more effectively through its overse network of subsidiaries and repr sentatives.

A new and separate group has be established to direct this project wo with John D. Grothe as manager metallurgical project sales, Willia C. Weber, manager of chemical pr ect sales and John W. Michen manager of industrial project sal Each man has some 30 years of Do Oliver experience, the majority spe on plant and project work, the co pany says.

In the chemical field, one of Dor Oliver's major areas has been the d sign and supply of chemical fertiliz plants. Since entering the field a proximately 35 years ago, the co pany has designed and put into oper tion some 50 phosphoric acid granular fertilizer plants, the large of these being the two recent 200,0 ton a year triple superphospha Florida installations of Davis Chemical Co. and American Cyanam Co. Geographically the spread of n cent fertilizer, alumina and magnes installations has included locations England, Scotland, Norway, Gree Germany, France, South Americ Tasmania, India and Japan.

Mr. Weber, who will head up Dor Oliver's chemical project work, h had both project and process develo ment and broad plant design and o erating experience since joining t company in 1918. He has been charge of the company's work in pho phoric acid and chemical fertilize and holds numerous equipment an process patents in wide current use.

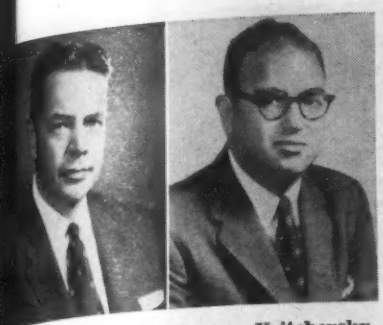
## Baughman Names New Advertising Counsel

JERSEYVILLE, ILL.—Baughm Manufacturing Co. has announced t appointment of Warner & Todd, In St. Louis, Mo., as its advertising cou sel. The new arrangement became e fective on Oct. 1, according to Jam E. Cadle, Jr., assistant general ma ager of Baughman.

Mr. Cadle said that the appoin ment of Warner & Todd is an initi step in Baughman's expansion pr gram, and that the firm will no place greater emphasis on the man facture of bulk transport bodies.

Sales efforts of the company will b directed at major manufacturers wh transport bulk products in volum Baughman's bulk transport truc bodies are capable of unloading up t one ton a minute, Mr. Cadle said.

Baughman makes a diversified lin of automatic, self-unloading bodie spreaders for lime and fertilizer, an conveyor systems for farm and fa tory.



Alfred C. Stepan, Jr. Jerome Kritchevsky

**NINOL ACQUIRED—Acquisition of Ninol Laboratories, Inc., Chicago, by Stepan Chemical Co., Chicago, has been announced by Alfred C. Stepan, Jr., Stepan president, and Jerome Kritchevsky, Ninol president. (See page 2 of the Sept. 30 issue of Croplife). Ninol will operate as a division of Stepan. Mr. Kritchevsky, who becomes a vice president of Stepan, will be general manager of the Ninol Division.**

## Scientists Study Fungicide Placement

DAVIS, CAL.—With the help of radioactive chemicals and indicator dyes, plant scientists are looking for the most efficient method for row-placement application of fungicides.

Use of two spray nozzles or dust tubes, one preceding and the other following a seed press wheel, provides the most uniform distribution of the chemicals through the soil, according to R. H. Garber, U.S. Department of Agriculture, and L. D. Leach, University of California, Davis, both plant scientists.

The researchers conducted tests with a spray mixture containing radioactive rubidium 86. Soil profiles, obtained after the test applications, were exposed to X-ray film. When the films were developed, they showed the location of the ray-emitting material in the soil.

Application from a single nozzle ahead of a seed press wheel tended to concentrate the spray material at the bottom of the furrow and leave the surface soil untreated, the scientists found. Material from a nozzle behind the wheel didn't reach the deeper soil, but remained in the upper layers.

With two nozzles, the fungicides were more evenly distributed. But wetting the soil ahead of the wheel sometimes caused a mechanical difficulty in the operation, said the plant pathologists. Staff members of the department of agricultural engineering at Davis also cooperated in the studies.

Similar results were obtained with an oil-soluble safranin dye used as an indicator. After application, the dye was extracted from the soil with a solvent and measured by color analysis. In other tests, Mr. Garber and Mr. Leach are using a fluorescent dye, observed under ultraviolet light, to indicate the distribution of chemicals applied to the soil.

## Horticultural Society To Establish Office

EAST LANSING, MICH.—The national office for the American Society for Horticultural Science will be established soon at East Lansing. Such action was approved at the recent national convention of the group at Sanford University.

Dr. Roy E. Marshall, veteran member of the Michigan State University faculty, will open the office and serve as secretary-treasurer and also as business manager. Dr. Marshall retires this fall as the assistant director of the Michigan Agricultural Experiment Station after more than 30 years of service.

## Fertilizer Short Course

ST. PAUL—A soils and fertilizer short course has been scheduled for Dec. 9 at the St. Paul Campus of the University of Minnesota.

**USDA SAYS:**

## Orchard Planting, Fertilization Depend On Winter Climate

WASHINGTON—Winter temperatures and winter rainfall are important factors to consider in deciding when to plant and fertilize orchard trees, according to the U.S. Department of Agriculture.

In areas where temperatures in winter frequently fall below zero, early-spring planting is recommended for best results, say horticulturists of USDA's Agricultural Research Service.

Newly-planted nursery trees are usually more susceptible to winter injury than older trees in the orchard. Such trees often grow until late summer at the nursery and do not entirely ripen before they are dug in the fall. This makes them subject to injury or death if low temperatures occur during the winter after fall planting. The roots of young trees are particularly sensitive to cold injury—exposure of the roots to temperatures of only 25° F. may cause damage.

However, early-winter planting has definite advantages in areas where winter temperatures are relatively mild. Winter rainfall can help settle the soil firmly about the roots, and new root growth will begin when spring arrives. Trees in warmer sections of the country may be set out any time the ground is unfrozen and temperatures are above freezing.

Research has shown that applying fertilizer in early winter, after the leaves have fallen but before the ground freezes, gives excellent results in most parts of the country. Where rainfall is limited and most of it falls in the winter, fertilizing in late fall or early-winter is especially effective. Winter rains will carry the applied nutrients into the root zone, making them available for use by the time the trees start growth in the spring.

Spring fertilization may be too late to be useful in promoting early-spring tree growth, USDA said. Also, in orchards with an under-growth of sod, the grass will use up most of the nitrogen applied in early spring.

A few reports from colder areas of the country show that fall fertilizer application can render trees more susceptible to winter-injury. Areas with sandy or very shallow soils may also qualify as questionable locations for fall or early-winter fertilization because of the danger of nutrient loss through leaching, according to USDA. Orchards on soils of this type may need additional application of fertilizer in the spring after heavy winter precipitation.

### GLF EXECUTIVE RESIGNS

ITHACA, N.Y.—Charles L. Dickinson, Etna, assistant to the general manager of Cooperative G.L.F. Exchange, has announced his resignation from the cooperative.

## NEW ENGLAND CONFERENCE

(Continued from page 1)

ecutives, a group of industry agronomists and the staffs of the NPFI and National Analysts, Inc.

"We are impressed with the type of information we are getting from the survey. When the results are tabulated they will be analyzed and cross-checked statistically, and the final phase of the survey will be to draw specific conclusions as to the basic factors which influence farmers' fertilizer practices."

The panels which followed took up some of the questions asked in the survey and how the results will aid New England fertilizer companies and farm advisers in promoting proper use of plant food. Some of the questions which were discussed by the panel, and types of answers received from farmers interviewed in the Northeast, included:

(1) Why did you not use commercial fertilizer? Reasons given included (a) lack of money or credit, (b) preferred organic material, (c) fertilizing not necessary, (d) not enough time to fertilize, (e) lacked necessary equipment.

(2) When you decided to use fertilizer, with whom did you discuss your needs? Answers included dealers, professional agricultural workers, family members, neighbors, fertilizer salesmen and "no one."

(3) What points concerning fertilizer were discussed? Among numerous points were listed (a) amount to use, (b) analysis or type to use, (c) price, and (d) brand.

(4) What are your best sources of practical information? Mentions included agricultural college publications, county agents, local dealers, regional farm magazines, neighbors, national farm magazines, television, salesmen, newspapers and radio.

(5) What classes of farmers had visited fertilizer demonstrations? These results will be rated as to high, medium and low fertilizer users or non-users.

(6) What are the farmers' opinions of fertilizer demonstrations? This question will be analyzed as to the various good effects received, no effect or other effects.

(7) What is the farmers' opinion of using credit to buy fertilizer? These figures will be tabulated according to (a) certainly would borrow, (b) probably would borrow, (c) probably would not borrow, and (d) certainly would not borrow.

(8) Average income per cultivated acre by high, medium and low users and by non-users in the Northeast.

These questions and the factors involved as they applied to New England were taken up by the other panel members. Presiding officer was Dr. Mason H. Campbell, dean of the College of Agriculture, University of Rhode Island.

"There is adequate capital available to farmers in the Northeast," Harry R. Mitiguy, agricultural economist for the Federal Reserve Bank, Boston, said in opening the discussion on how New England looks at the fertilizer study. "While the money is not always on the terms we'd like to see it, it is available. The problem with the dairy farmer is that he has had to expand his operation to remain in business. Rather than looking first to a long-term forage program he is investing in machinery, more cows and greater acreage.

**"We must convince the dairy farmer that forage improvement is a long term capital investment," Mr. Mitiguy declared, "and the industry must sell a complete management program to sell fertilizer."**

The survey will be of great value to colleges as well as industry, Henry M. Hansen, associate extension director, University of Connecticut, said.

"It will reveal to us numerous ways we can better reach the farmer with our information services," he said. "The trend in farming is changing in our area, and this will have its effect on the fertilizer business. While farms are becoming fewer in number, we may expect larger individual sales of fertilizer in the future."

Mr. Hansen commented that demonstrations do much toward informing farmers of new fertilizing practices, but it might be better to gain a farmer's interest and confidence by having him participate in demonstrations on his own farm rather than trying to attract his attention to other farms or state test plots.

Contributing to crop surpluses which at the moment constitute a problem in agriculture may be a deterring factor in merchandising fertilizer, Dr. Mack Drake, soil chemist, University of Massachusetts, said in his observations on the study. Yet there are several factors which make fertilizer use necessary and attractive to farmers: (1) farmers must replace a certain amount of the elements removed from the soil by plant growth, (2) for forage growers fertilizing results in a lower cost per crop ton of feed and (3) forage quality is improved by increased protein content.

Modern field demonstrations are effective when they illustrate species applicable to the area, show comparative fertilizer treatments, utilize soil typical of the area and incorporate adequate management practices, Dr. Drake said. Industry should be active in demonstrations with farmers and state agencies, he added, for dealers and salesmen can be helpful in disseminating information from these tests.

**"Some people believe the problem in Maine is to maintain the present 180,000-200,000 ton rate of fertilizer use in the state," Dr. Roland A. Struchtemeyer, head of the department of agronomy, University of Maine, declared, "but I think there are opportunities for increasing fertilizer usage. We must stress more quality in dairy forage, not quantity.**

"From this study we must determine whether our present information programs are adequate enough to get through to the non-users of fertilizer. We would want to know how many non-users are forage producers and how many of these non-users we would actually want to sell on our ideas."

The question of credit and its effect on fertilizer usage was discussed by W. F. Henry, head of the department of agricultural economics, University of New Hampshire.

"Could this reluctance be due to non-users' lack of knowledge of the results of sound management with fertilizer?" Mr. Henry asked. "We are aware that high users of fertilizer are more management-conscious. Increased output and efficiency of the better farms through good management may be forcing the marginal producers out of business."

**Winston A. Way, agronomist, agricultural extension service, University of Vermont, continued this discussion by saying that the story of good management must be told to those who are coming into farming or who will be in business in the future; not the marginal producers who appear to be going out of the picture anyway.**

"We should take the indirect approach of selling the merits of various crops, and through use of these crops more fertilizer will be consumed," Mr. Way suggested. "We may tell our story in many ways on a broad basis, but it also gets down to individual terms as well. Lack of initiative or old prejudices may stand in the way of some farmers using fertilizer. Such situations point out the need for individual service."

Dr. Russell Coleman, executive vice president of the NPFI, and W. R. Allstetter, vice president, concluded the discussion by pointing out the new plan for regional offices of the NPFI. With the results of the survey as they are analyzed for the various sections of the U.S. and with regional staffs to work regularly with regional, state and local agricultural agencies, we can assist in carrying the story of proper fertilizer usage and sound farm practices to the grass roots, the NPFI officials said.

Louis Webster, director, division of markets, Massachusetts State Department of Agriculture, was the banquet speaker. Toastmaster was Edward R. Jones, Hubbard-Hall Chemical Co., Waterbury, Conn.

## USDA

(Contined from page 1)

keep pace with the improvements in aircraft, USDA said.

The scientists cite the following factors as most important in contributing to the current growth of chemical treatment of land:

(1) Development of new crop varieties, many of which have proved attractive to pests.

(2) Discovery of effective pesticidal chemicals that can be applied in liquid form.

(3) Public demand for elimination of crop and other losses due to pests.

(4) Discovery that large crop losses in many areas, formerly charged to soil deficiencies, are actually due to nematodes or other pests.

(5) Improved inorganic fertilizers.

(6) Invasion or spread of pests such as the pink bollworm, Mediterranean fruit fly, witchweed, soybean cyst nematode and others.

(7) Abundance of trained pilots and aircraft since World War II.

### JOINS MCA

WASHINGTON—The chemical division of Virginia-Carolina Chemical Corp. has joined the Manufacturing Chemists' Assn.

T. Austin Young

## CSC Opens New District Sales Office in Atlanta

NEW YORK—Commercial Solvents Corp. has opened a new corporate district office with headquarters at 344 Williams St., N.W., Atlanta, Ga., according to an announcement by J. V. O'Leary, general sales manager.

T. Austin Young has been appointed district manager of the new office. Mr. Young joined CSC in 1941 and in 1947 was assigned to the automotive chemicals department as a sales representative.

The new sales center will serve Alabama, Florida, Georgia, South Carolina and North Carolina.

Sales representatives operating out of the Atlanta office are: for agricultural chemicals, Clifford J. Watts, Robert Thompson, Albert W. Kinnard and Harold Lloyd; for animal nutrition products, Ralph O. Cox; for automotive chemicals, Daniel S. Braden and Franklin E. Brooks; for industrial chemicals, Walter Rushin.

## Dealers to Meet

BROOKINGS, S.D.—The eighth annual fertilizer dealers short course will be held at South Dakota State College Dec. 6, according to Dr. W. W. Worzella, head of agronomy.

Henry W. Stevens

**NAMED CONSULTANT—Henry W. Stevens has been engaged by Arkell and Smiths as a consultant on flexible packaging, it has been announced by S. S. Yates, president and chairman of the board for the firm. Mr. Stevens was formerly in charge of sales and development for the Betner Co., and was at one time with Continental Can Co., Inc., as manager of technical sales and development for the Shellmar-Betner Division.**

Thomas J. Clarke

**SAFETY PROGRAM SPEAKER—Thomas J. Clarke, controller of GLF Soil-Building Service, Ithaca, N.Y., will be luncheon speaker on Oct. 22, the fertilizer section of the National Safety Council meeting in Chicago. His topic: "The Man Who Wasn't There." Mr. Clarke, well known in fertilizer safety circles, has been with GLF since his graduation from Pace College, and has supplemented his basic business education with graduate courses in management, personnel adminisrtation, safety engineering and industrial engineering.**

## Michigan Chemical Develops New Seal

SAINT LOUIS, MICH.—A new type of closure seal for seamless methyl bromide cans has been developed by Michigan Chemical Corp. here, according to an announcement made by H. Stanley Lawton, vice president of sales and development for the company. The seal is resistant to this highly toxic fumigant material and will permit storage for long periods of time, Mr. Lawton said.

The new seal has been under test for two years. Testing included warehouse storage, high-temperature accelerated storage and sample shipments under highly adverse hot-temperature conditions. Commercial shipments have been made during the past sixteen months, without a known instance of leakage, Mr. Lawton said.

Patent protection is being sought for the new device. The closure is used on Michigan's Pestmaster Methyl Bromide and on the company's Pestmaster Soil Fumigant-1.

## Bulkmaster Truck Line Sold to Alabama Firm

CEDAR RAPIDS, IOWA — Dorsey Trailers, Inc., Elba, Ala., has purchased exclusive manufacturing rights for Highway Equipment Company's complete line of Bulkmaster self-unloading bulk delivery truck bodies and trailers. The announcement was made jointly at Highway's general offices here by Roy Gaddis, president of Highway, and C. E. Dorsey, Jr., president of the Alabama concern.

Mr. Gaddis said his company sold the Bulkmaster line of bulk delivery units in order to devote its entire facilities to the increased production of its line of road machinery and agricultural lime and commercial fertilizer spreaders.

### TURFGRASS CONFERENCE

FT. COLLINS—A consulting agronomist to the U.S. Military Academy at West Point, N.Y., will be the chief speaker at the Rocky Mountain Regional Turfgrass Conference at Ft. Collins, Oct. 10-11. He is Warren E. Lafkin, president of the Golf and Lawn Supply Corp. and a specialist in turf management. The conference will be held on the Colorado State University campus.

# Gloomicides

If all the autos were placed end to end, ninety percent of all the drivers would immediately pull out to pass the car ahead.

★

Sonny: "Don't you think that was nice of Mrs. Logan to give me all that candy, mom?"

Mom: "Yes, sonny, and I hope you were real polite to her, like a little gentleman."

Sonny: "I couldn' abeen politer to her than I was, mom. I told her I wished pop had met her before marrying you."

★

They were out driving on a quiet country road. The car slowed to a stop.

"What's the matter?" asked the girl.

"We're out of gas," replied the boy. "We may be here quite a while."

The girl smiled shyly as she took a bottle from her bag and said softly, "We can make good use of this, then."

"Great," said the boy with a pleased grin: "is it gin or whiskey?"

"Neither," she smiled, "it's Ethyl. I've been out riding with you college men before."

★

Boasted the Texas cattleman to the visitor: "We dont' brand them. We have them engraved."

★

Take the air out of most big wheels and all you have left is a flat tire.

★

"Grant me one last request," pleaded the dying man.

"Of course, Bill," she said softly.

"Six months after I die," he went on, "I want you to marry Joe."

"Joe! But I thought you hated that man."

"Exactly," he said and passed away.

★

The office man was delighted in displaying his new dentures to fellow employees. Finally someone inquired: "And how does your wife like the new choppers?"

To this the man replied: "I dunno; I never open my mouth around the house."

★

A man owes it to himself to be successful. Once successful, he owes it to the Bureau of Internal Revenue.

★

An old-timer is one who can remember when the stranger who accosted you on the street was a panhandler, and not a recruiting agent for an engineering firm.

# Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.


**ST. LAWRENCE ENIGMA . . .**

## *Will Seaway Be Industry Boon or Bane?*

When the long-debated St. Lawrence waterway actually gets under way to provide a 2-way street from the middle western portion of the United States to Europe, and vice versa, how is it going to affect the agricultural chemical industry? That question has been the source of a vague sort of worry for many in the trade.

**Will the two-way aspects of the waterway mean that European producers will seek greater markets in the U.S., while our own firms expect to develop greater export trade? Will the economies of the seaway be outweighed by other deterrent factors such as winter freezeups and load limitations on vessels using the route? There is divided opinion when it comes to trying to figure out how all of this will react on the industry.**

The matter was given a lot of consideration at the recent meeting of the Chemical Market Research Assn. at Lake Placid, N.Y. Most of the ideas expressed here indicated that the American chemical industry as a whole, without pointing out any particular segment of it, would not feel an immediate transportation revolution because of the waterway. This would mean that the effect might not be felt until perhaps later on when the seaway had been used for some time and some of the matters of conjecture settled.

It is obvious, some of the speakers reminded the chemical industry representatives present, that the value of the seaway will diminish as shipments are made to more distant parts of the world. Also, the fact that the waterway will be frozen and therefore unusable for a good portion of the year, cuts down its overall value. A further limitation lies in the rule that ships may not be able to operate at full draft at all times. The 25.5 ft. depth places an economic handicap on large vessels which, if loaded to capacity, would exceed that depth.

One speaker, H. G. Miller, manager of distribution development for the Dow Chemical Co., Midland, Mich., said that much of the chemical tonnage now exported from the area around the seaway could be diverted to the new route during the shipping season. The lower freight cost via this route would make such a diversion feasible.

**Mr. Miller added, however, that the law of diminishing returns comes into the picture when the fringe areas of the Ohio River Valley are reached, since the saving from diverting tonnage to the Great Lakes route will decrease. Because of basic disadvantages of the Great Lakes route, including less frequent service and seasonal operation, the tonnage in the fringe area would probably be more likely to continue via present routes than to be diverted to the new route.**

Of particular interest to many in the chemical industry is the matter of depth limitations because of the use of tankers for transporting certain chemicals. Some of the relatively small vessels, including some specialized outfits, could carry full cargoes at seaway draft. But when it comes to larger tankers such as some of the 18,000 ton chemical carriers, these could operate through the seaway at only about 70% of their total cargo capacity. This situation would of course cut down on efficiency, thus cancelling out some of the advantages.

In the 1960's, Mr. Miller predicted, there will be more sea-going ships in the Great Lakes area, and the development of bulk chemical movements will have received a boost in that vessels designed for efficient operation on deep sea and Great Lakes runs could find easy access in and out of the Great Lakes. This would permit vessels operating primarily on the Great Lakes during the summer months, to be diverted to deep sea runs in the off season.

Another speaker, Douglas Walkington, a sales executive of the chemical division of Canadian Industries, Ltd., said there is a trend toward bulk waterway shipments of liquid chemicals, with tankers carrying mixed loads from the Texas coast to storage points in New Jersey and elsewhere. However, he expressed doubt that this type of ship would be feasible for imports through the seaway.

**With more power, better harbors and direct contact with the ports of the world, it is likely that industry in general will grow substantially on both the United States and Canadian sides of the Great Lakes. This should lead to larger chemical plants in the area, and it is regarded as likely that such general industrial growth might have a bigger effect on chemical imports in both the U.S. and Canada, than would the slightly lower freight rates and the larger ships.**

Be that as it may, there is still conjecture as to the effect this new waterway might have on the transportation problem of various large-tonnage commodities such as those used in the fertilizer industry. Might it open the way for German potash, for instance, to become more of a threat to the domestic producers? Or would the less costly freight rates from the middle west to Europe be a boon to American exporters who ship from various Great Lakes ports?

To balance up the plus and minus aspects of the seaway will require a tremendous amount of objective figuring and weighing of factors. It is a tough job to do, in the presence of so many variables. Also, there is a great deal of discussion about how tolls should be collected, and on what basis.

Testimony heard at the recent Washington toll hearings of the St. Lawrence Seaway Development Corporation revealed some of the divergence in viewpoints involved. Dr. N. R. Danielian, president of the Great Lakes-St. Lawrence Assn. and chairman of the Users' Committee on St. Lawrence Seaway Tolls, told the development corporation that his group favors a single toll charged by the U.S. and Canada for transiting the Seaway; that bulk cargo tolls be assessed on a weight, long-ton cargo basis; and that ships in ballast pay a minimum toll based on net registered tonnage measured to 25½ ft. of effective draft of the Seaway.

For ships carrying only bulk cargo, he suggested that the ballast rate should be the minimum rate, even if partially loaded, up to the point where the toll on a weight-ton basis exceeds the ballast rate. In the latter case, only the weight-ton toll should be charged, he said.

**From the other side of the fence, or, more accurately, from the other end of the Seaway, came testimony from the chairman of the New York-New Jersey Committee for a Self-Supporting Seaway. This chairman expressed the hope that tolls charged on the waterway would be sufficient to make it self supporting, and that the two governments should not subsidize it by the application of "bargain tolls," "promotional tolls," or "no tolls at all."**

Meanwhile, those portions of the pesticide and fertilizer industries concerned with the transportation of materials lending themselves to this type of shipments, might continue to watch the St. Lawrence Waterway situation with more than casual interest.

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**CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.**

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# MEETING MEMOS

Oct. 21-24—National Pest Control Assn., Annual Convention, Brown Hotel, Louisville.

Nov. 18-22—International Conference on Citrus Virus Diseases, University of California, Riverside Campus.

Dec. 6—Eighth Annual Fertilizer Dealers Short Course, South Dakota State College, Brookings, S.D.

Dec. 9—Soils and Fertilizer Short Course, St. Paul Campus, University of Minnesota.

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EDITOR'S NOTE—The listings above are appearing in this column for the first time this week.

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Oct. 7-8—Western Agricultural Chemicals Assn., Fall Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

Oct. 9—Annual Range Improvement Field Day, Southern Great Plains Field Station, Woodward, Okla.

Oct. 9—Conference on Precautionary Labeling, Park-Sheraton Hotel, New York City, Sponsored by the Manufacturing Chemists Assn.

Oct. 9-10—Shell Nematology Workshop, Hotel Kingsway, 108 N. Kingshighway, St. Louis, Mo.

Oct. 9-11—Florida Fruit & Vegetable Assn., 14th Annual Convention, Hotel Fontainebleau, Miami Beach, Fla.

Oct. 13-15 — Anhydrous Ammonia Association of Texas, Fifth Annual Convention, Herring Hotel, Amarillo, Texas, T. C. Duffie, Quality Fertilizer Co., Chillicothe, Texas, Secretary-Treasurer.

Oct. 14—Sixth Annual Sales Clinic of the Salesmen's Assn., American Chemical Society, Hotel Roosevelt, New York.

Oct. 14-16—Trace Element Symposium, Ohio Agricultural Experiment Station, Wooster, Ohio.

Oct. 14-16—Assn. of Official Agricultural Chemists, 71st Annual Meeting, Washington, D.C., Dr. William Horwitz, Box 540, Benjamin Franklin Station, Washington, D.C., secretary-treasurer.

Oct. 17—Conference on Chemical Control Procedures for Industry Chemical Control Analysts, Shoreham Hotel, Washington, D.C. Sponsored by National Plant Food Institute.

Oct. 18—Association of American Fertilizer Control Officials (States Relations Committee, 8 p.m. Oct. 17), Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Box 392, Clemson, S.C., Secretary-Treasurer.

Oct. 21-22—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago.

Oct. 25—Conference, Tennessee Valley Authority, Mississippi State College and fertilizer distributors, Mississippi State College, State College, Miss.

Oct. 29—Grassland Farming Conference, Rutgers University, New Brunswick, N.J.

Oct. 29-30—Seventh Annual Northwest Garden Supply Trade Show of Oregon Feed & Seed Dealers Assn., Portland, Ore. Masonic Temple.

Oct. 29-31—Entomological Society of Canada and Entomological Society of Alberta, Annual Meetings, Lethbridge, Alberta.

Oct. 31—19th annual meeting, Middle West Soil Improvement Committee, Sherman Hotel, Chicago. Z. H. Beers, 228 N. LaSalle St., Chicago, executive secretary.

Oct. 31-Nov. 1—Second Annual Southern Fertilizer Conference and Second Annual Southern Soil Fertility Conference, Dinkler Plaza Hotel, Atlanta, Ga.

Nov. 3-5—California Fertilizer Assn. 34th Annual Convention, St. Francis Hotel, San Francisco, Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

Nov. 6-8—Fertilizer Industry Round Table, Sheraton Park Hotel, Washington, D.C.

Nov. 13-15—National Aviation Trades Assn., Annual Convention, Hotel Adolphus, Dallas, Texas.

Nov. 14-15 — Sixth Annual Oregon Weed Conference, Withycombe Hall, Oregon State College, Corvallis, Ore., Rex Warren, Corvallis, Ore., Secretary.

Nov. 17-19—National Fertilizer Solutions Assn., Annual Convention, Netherland-Hilton Hotel, Cincinnati, Muriel F. Collie, 2217 Tribune Tower, Chicago 11, Ill.

Nov. 18-20—Carolinas-Virginia Pesticide Formulators Assn., Carolina Hotel, Pinehurst, N.C. W. R. Peele, 516 S. Salisbury, Raleigh, N.C., secretary.

Nov. 18-22—American Society of Agronomy, Annual Meeting, Atlanta Biltmore Hotel, Atlanta, Ga.

Nov. 20-21—Ohio Pesticide Institute, Annual Winter Meeting, Neil House, Columbus, Ohio, J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Ohio, Secretary.

Nov. 21—New Jersey Entomological Society, Fall Meeting, New Brunswick, N.J.

Nov. 25—Oklahoma Fertilizer Dealers Conference, Oklahoma State University, Stillwater, Okla.

Nov. 25-26—Entomological Society of America, Eastern Branch Meeting, Commodore Hotel, New York, B. F. Driggers, New Jersey Agricultural Experiment Station, New Brunswick, N.J., Branch Secretary.

Nov. 26—Oklahoma Soils and Crops Conference, Oklahoma State University, Stillwater, Okla.

Dec. 1-3—Southern Seedsmen's Assn., Jung Hotel, New Orleans.

Dec. 2-5—Entomological Society of America, 5th Annual Meeting, Hotel Peabody, Memphis, Tenn., R. H. Nelson, 1530 P St., N.W., Washington 5, D.C., Executive Secretary.

Dec. 2-5—Cotton States Branch, Entomological Society of America, 32nd Annual Meeting, Hotel Peabody, Memphis, Tenn., M. E. Merkl, Box 202, Leland, Miss., Secretary-Treasurer.

Dec. 2-6—Exposition of Chemical Industries, New York Coliseum.

Dec. 3-4—Iowa State College Fertilizer Manufacturer's Conference and Fertilizer Dealers' Short Course, Memorial Union, Iowa State College campus, Ames, Ia.

Dec. 4-6—Soil Science Society of Florida, Annual Meeting, Fertilizer Symposium on Dec. 5, University of Florida, Gainesville.

Dec. 5—Second Annual New Mexico Irrigation Exposition, Eastern New Mexico Fairgrounds, Roswell, N.M.; Al W. Woodburn and William Harr, c/o Southwest Public Service Co., Roswell, co-chairmen.

Dec. 8-12—Vegetable Growers Association of America convention, Jung Hotel, New Orleans, La.

Dec. 9-12—Chemical Specialties Manufacturers Assn., Hollywood Beach Hotel, Hollywood, Fla.

Dec. 10-12 — North Central Weed Control Conference, 14th Annual Meeting, Hotel Savory, Des Moines, Iowa. Lyle A. Derscheid, agronomy department, South Dakota State College, Brookings, Program Chairman.

Dec. 11-13 — Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Dec. 12-13—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Tenn.

1958

Jan. 7-8—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 8-10—Northeastern Weed Control Conference, Hotel New Yorker, New York, R. J. Aldrich, Rutgers University, New Brunswick, N.J., Secretary.

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, Joint meeting, Peabody Hotel, Memphis, Tenn.

Jan. 14-15—Georgia Plant Food Educational Society, Annual Meeting, University of Georgia, Athens, Ga., Fielding Reed, 710 Mortgage Guarantee Bldg., Atlanta, Ga., Secretary-Treasurer.

Jan. 20-21—Pest-O-Rama, sponsored by the Alabama Association for Control of Economic Pests, Coliseum, Montgomery, Ala., W. G. Eden, P.O. Box 626, Montgomery, Ala., Secretary-Treasurer.

Jan. 21-22—North Carolina Pesticide School, College Union Bldg., North Carolina State College, Raleigh.

Jan. 21-23—California Weed Conference, San Jose, Cal.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

Feb. 20-22—Nitrogen Conference, University of Minnesota, St. Paul. M. W. Mawhinney, Smith-Douglass Co., Albert Lea, Minn., Chairman.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.



## Conference Planned On Citrus Virus Diseases

RIVERSIDE, CAL.—Robley C. Williams, virus authority and professor of biophysics at the University of California, Berkeley, will be among the speakers at the first international conference on citrus virus diseases, to be held here Nov. 18-22.

Known as the originator of basic techniques used in electron microscopy and for his findings on the shape and structure of viruses, Mr. Williams will be the chief speaker at the conference's opening banquet.

His talk will be on newly found properties of plant viruses, according to James M. Wallace, Riverside campus plant pathologist in charge of arranging the conference, part of the 50th anniversary celebration of the University's Citrus Experiment Station.

Other speakers will be P. C. J. Oberholzer, pioneer South African horticulturist; Prof. I. Reichert, authority on fungus and virus diseases of Middle East citrus; Lilian Frazer, plant pathologist, Sydney, Australia; and Henri Chapot, citrus authority in French Morocco.

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